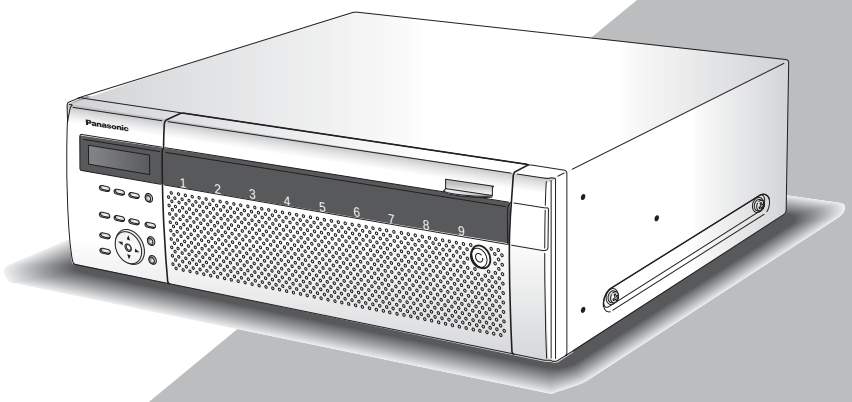
Panasonic

Network Disk Recorder

Operating Instructions

Model No. **WJ-ND400**



Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

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Preface

The Network Disk Recorder (WJ-ND400) is for recording images and audio from network surveillance cameras to a hard disk (hereafter HDD). It is possible to connect up to 64 cameras over a network.

Also, it is possible to access and operate the recorder via a network from the web browser on a computer (hereafter PC). A maximum of 16 PCs can be connected (via a network).

- The network settings for the PC need to be done to do settings and operations from the PC. A web browser must also be installed.

About these Operating Instructions

There are four manuals, they include the Installation Guide, Setup Instructions (PDF file), Operating Instructions (PDF file), and the Quick Reference Guide.

- Installation Guide : How to configure required settings and connect the equipment.
- Setup Instructions (PDF file) : How to configure required settings and connect the equipment to perform operations from a PC over a network.
- Operating Instructions (PDF file) : How to perform operations from a PC.
- Quick Reference Guide : Basic settings and frequently used functions.

Adobe® Reader is required to refer to the “Operating Instructions” and the “Setup Instructions” on the provided CD-ROM. When the Adobe® Reader is not installed on the PC, download the latest Adobe® Reader from the Adobe web site and install it.

In this manual and on the screen, the ND400 and the recorder are shown as WJ-ND400.

Refer to the "readme.txt" file on the CD-ROM bundled with the recorder for information about the versions and types of separately available software and cameras supported.

The following abbreviations are used in this document.

Microsoft® Windows Vista® Business (32-bit) is called Windows Vista®.

Microsoft® Windows® XP Professional SP2, and Microsoft® Windows® XP Home Edition SP2 are called Windows® XP.

System Requirements for a PC

It is recommended to operate this unit using a PC that meets the following system requirements.

- OS : Microsoft® Windows Vista® Business (32-bit)
  : Microsoft® Windows ® XP Professional SP2*
  : Microsoft® Windows ® XP Home Edition SP2*
- OS Language : English, French, Spanish, German, Italian, Russian, Chinese
- CPU : Pentium® 4 3.0 GHz or faster
- Memory : 1 GB or more (512 MB or more is required when using Microsoft® Windows® XP.)
- Monitor : Resolution: 1 024 x 768 pixels or more
  Color: 24-bit True color or better
- Network interface : 10/100/1 000 Mbps Ethernet port x1
- Web Browser : Windows® Internet Explorer® 7.0
  : Microsoft® Internet Explorer® 6.0 SP2*
- Audio interface : Sound card (when using the audio function)
- Other : CD-ROM drive: It is necessary to refer to the operating instructions and use the software on the provided CD-ROM.
  : DirectX® 9.0c or later
  : Adobe® Reader®: It is necessary to refer to the operating instructions on the provided CD-ROM.

* Microsoft® Internet Explorer® 6.0 SP2 is required when using Microsoft® Windows® XP Professional SP2 or Microsoft® Windows® XP Home Edition SP2.

Important:

- When using a PC that does not meet the above requirements, displaying of images may become slow or the web browser may become inoperable.
- Audio may not be heard if a sound card is not installed on a PC. Audio may be interrupted depending on the network environment.
- Refer to "Notes on Vista®" (PDF) for further information about system requirements for a PC and precautions when using Microsoft® Windows Vista®.

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- Adobe and Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
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- RSA is a registered trademark of RSA Security Inc. BSAFE is a registered trademark of RSA Security in the USA and other countries.
- Other names of companies and products contained in these operating instructions may be trademarks or registered trademarks of their respective owners.

Restrictions when operating MPEG-4 images

There are following restrictions when "MPEG-4" is selected for the image compression method on the setup menu. ("NW camera" under "Camera")

1. When displaying live images

(1) Black screen may be displayed for the first few seconds (*) when the following operations are performed while displaying live images.
- When MPEG-4 live images are displayed (by switching camera channel, etc.)
- When MPEG-4 image is enlarged (or when enlarged MPEG-4 image is resized to the original size)

(2) It may take several seconds (*) for refresh interval of MPEG-4 image when displaying images on a 4-screen.

Example: When "3 seconds" is selected for the refresh interval on the camera, MPEG-4 image will be refreshed in 3 seconds intervals.

2. When displaying images sequentially

When "MPEG-4" is selected for the image compression method of the camera selected for a camera channel on the setup menu, the respective sequence step will be skipped.

3. When playing recorded images

(1) Displayed playback time may be fast for several seconds (*) when the following operations are performed while playing recorded images
- When MPEG-4 recorded images are played (by changing camera channel, etc.)
- When MPEG-4 image is enlarged (or when enlarged MPEG-4 image is resized to the original size)
  (When operating to zoom in/out a paused MPEG-4 recorded image, image of several seconds later than the displayed image may be enlarged.)
- When the [PLAY] button is clicked again while playing MPEG-4 image
- When the first frame is displayed by clicking the [NEXT IMAGE] button during pausing

(2) Playback may be performed in several seconds intervals (*) when the following operations are performed while playing MPEG-4 image. Refer to page 20 for operations during playback.
- Reverse playback ([REV PLAY])
- Fast playback/fast reverse playback ([FF] / [REW])
- Reverse frame playback ([PREV IMAGE])

Example: When "3 seconds" is selected for the refresh interval on the camera, MPEG-4 image will be played in 3 seconds intervals.

(3) When two records are played sequentially, the last few frames of the former record and the first few frames of the next record may be displayed overlapped.

(4) When playing MPEG-4 image by designating time and date, playback may start from a point several seconds before or after the designated time and date or from the first frame of the next record.

4. When recording images

(1) Time and date displayed on the recording event list (actual start time of recordings) may not exactly indicate the actual time of recording trigger (event occurrence time, start time of the schedule recording, etc.), and also the recording duration may be shortened for seconds worth two times of the refresh interval set on the camera.

Example: When the set recording duration and the set refresh interval of the camera are 10 seconds and 1 second respectively
10 - (1 x 2) = 8 (sec)
The minimum actual recording duration is 8 seconds.

(2) When pre-event recording is set to be performed, pre-event recording duration may be longer than the set duration.

Example: Depending on the size of the image data, pre-recording duration may be around 10 seconds even when setting 5 seconds for the pre-event recording duration.

5. When copying images

Copying may start from a point several seconds (*) later than the designated start time when copying MPEG-4 images. To copy the desired images for sure, designate start time several seconds earlier than the time when the desired images are recorded, and set time range for copying longer than the refresh interval set on the camera.

6. When downloading recorded images

Download of recorded images may start from a point several seconds (*) earlier than the designated start time. Set time range for download longer than the refresh interval set on the camera.

7. When transmitting images recorded at an event occurrence to the FTP server

Duration of images to be transmitted to the FTP server, which are recorded at an event occurrence, may not be exactly the same as the duration set for "Duration-Pre" and "Duration-Post". Set "Duration-Pre" and "Duration-Post" longer than the refresh interval set on the camera.

8. Other

MPEG-4 images will not be attached to alarm mails.

Even when images are to be transmitted to the FTP server periodically, MPEG-4 images will not be transmitted.

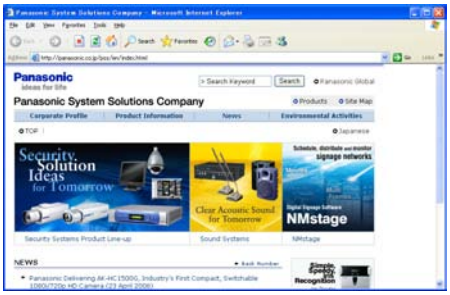
* Time (seconds) differs depending on the refresh interval set on the camera (0.2 - 5 seconds). To shorten time lag, set the refresh interval on the camera shorter. Refer to the operating instructions of the camera for how to configure the refresh interval.

Display and close the operating window

Operate the recorder from a web browser on a PC.

1 **Start the PC.**

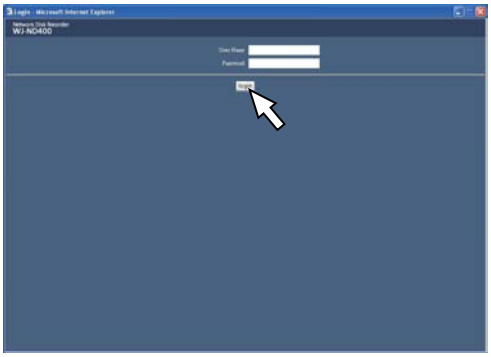
2 **Launch the web browser.**



3 **Enter the URL or IP address set for the recorder into the address box and press the [Enter] key.**

The authentication window is displayed.

- If [User authentication] is [Off], the authentication window does not open (refer to the Setup Instructions (PDF file)).

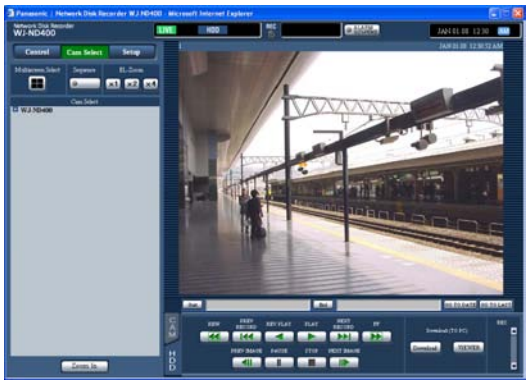


Important:

- Refer to your system administrator about the IP address settings.
- If the [Host authentication] is [On] (refer to the Setup Instructions (PDF file)), only PCs that have an IP address that is registered with the recorder can connect to the recorder. For more information, contact your system administrator.
- Do not enter "0" on the front of the IP address when inputting it.
  Example:
  OK: 192.168.0.50
  NG: 192.168.0.050
- Refer to page 64 if a message appears in the information bar.

4 **Enter a "User name" and "Password" that is registered with the recorder, and click the [Login] button.**

The top page is displayed.



Important:

- Refer to your system administrator for the user name and password set for you.
  Refer to the Setup Instructions (PDF file) for information about user registration.
- The default user name and password settings are shown below.
  User name: ADMIN
  Password: 12345
- To ensure security, change the ADMIN password before starting operations. Also, change the password periodically. Refer to the Setup Instructions (PDF file) for information about changing passwords.
- When the unit is being operated without changing the default administrator name and password, the pop-up window saying that it is recommended to change the password will be displayed.

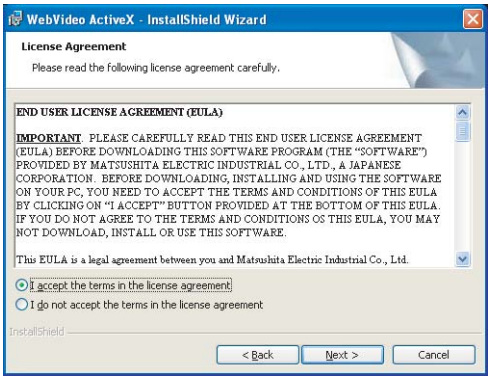
5 **Click the buttons and tabs to set up operations.**

Important:

- Refer to page 64 if a message appears in the information bar.

Note:

- The first time the recorder's top page is displayed on a PC the wizard for installing ActiveX, which must be installed to view images, is displayed. Follow the on-screen instructions.


WebVideo ActiveX - InstallShield Wizard
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Please read the following license agreement carefully.
END USER LICENSE AGREEMENT (EULA)
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This EULA is a legal agreement between you and Matsushita Electric Industrial Co., Ltd.
I accept the terms in the license agreement
I do not accept the terms in the license agreement
InstallShield
< Back
Next >
Cancel

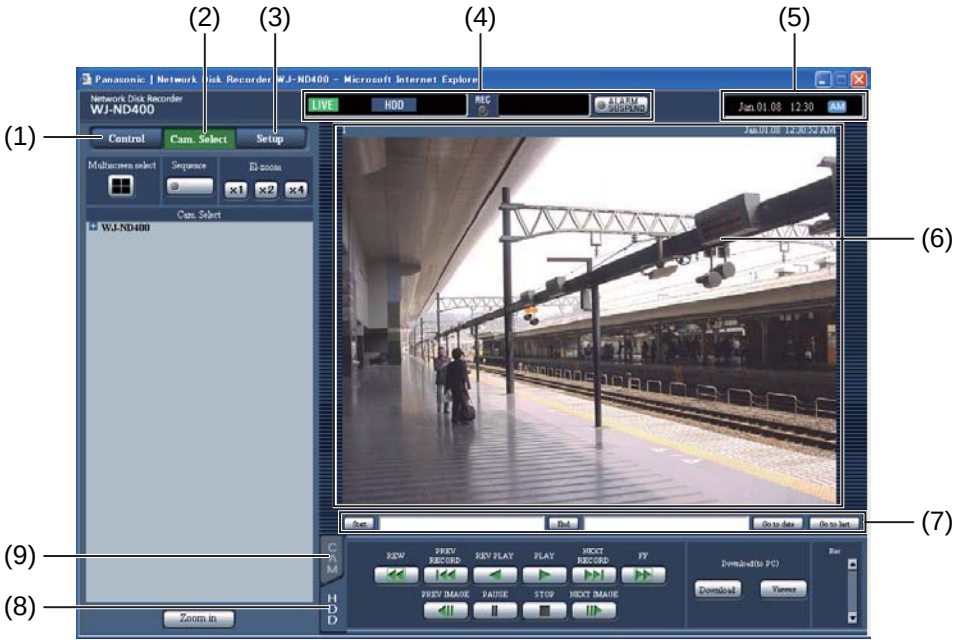
- If WJ-ND200/WJ-ND300 ActiveX is already installed, delete WebVideo ActiveX using Add or Remove Programs and then install WJ-ND400 ActiveX.
- When the install wizard is displayed again even after completing the installation of the ActiveX, restart the PC.

6 **Close the web browser after operations and settings are finished.**

Follow the on-screen instructions for setting and ending functions.

Names and functions of components

Top page



(1) [Control] button (page 11)
Performs operations such as searching for recorded images. You can also perform the functions of the camera picture switcher such as changing the display of camera live pictures to multiscreen or sequential display.

(2) [Cam. select] button (page 12)
The switcher functions such as switching camera channels are operable on this page.

(3) [Setup] button (page 13)
Sets up the recorder.

(4) Status display area (page 14)
Displays the recorder's status, such as the recording and playback status.

(5) Current time display area
Displays the current time.

(6) Image display
Displays live and recorded images. Displays the camera title in the upper left and the date/time in the upper right (current for live, recorded for recorded images). Click the camera title when viewing multiscreen to view the clicked image on a single screen.

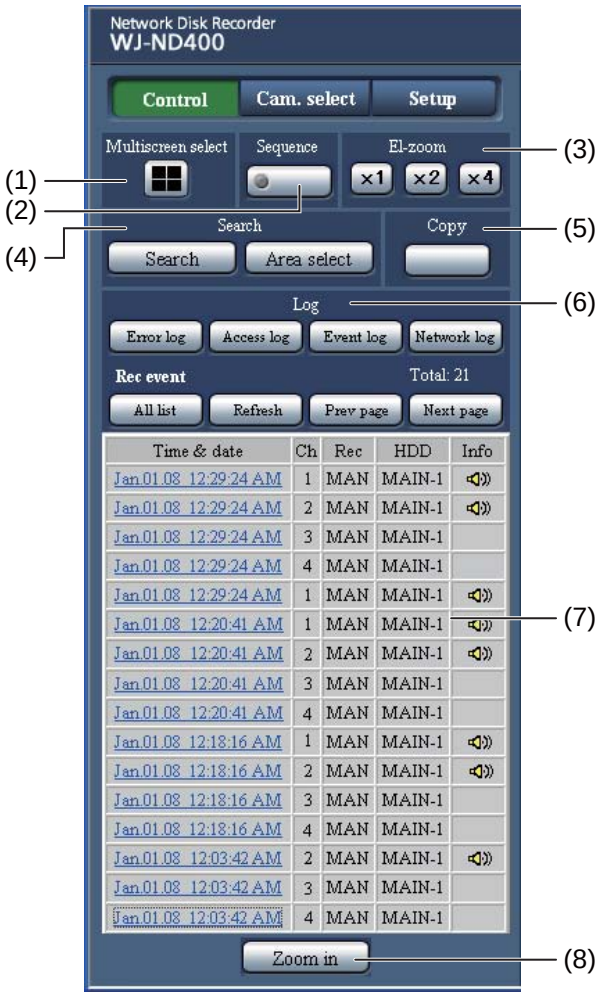
(7) Playback point operation area (page 15)
Specify the playback position or skip to the latest images.

(8) [HDD] tab (page 15)
Controls recorded images, such as playing images or downloading to save to a PC.

(9) [CAM] tab (page 17)
Controls the cameras' zoom, focus, and automatic functions.

[Control] button

The following operation panel appears when you click the [Control] button.



(1) [Multiscreen select] box

Displays multiple images from up to 4 cameras at the same time. Switches between the four screens with each clicking the button following the preset camera combination (refer to the Setup Instructions (PDF file)).

(2) [Sequence] box

Switches the camera images automatically in a preset sequence. The button indicator lights green during sequence (refer to the Setup Instructions (PDF file)).

(3) [El-zoom] box

Displays the camera image at the magnification of the button clicked.

: 1x

: 2x

: 4x

(4) [Search] box

[Search] button

Searches for recorded images. The search results are shown on the rec event list window (page 24, page 25).

[Area select] button

Selects disk to play or search (page 26).

(5) [Copy] box

Copies recorded images into the Copy area of the HDD.

(6) [Log] box

The history is shown on the rec event list window.

[Error log] button

Displays a log of the errors that occur.

[Access log] button

Displays the log in/log out time and date, the user name or IP address.

[Event log] button

Displays the event log (when it occurred and a description).

[Network log] button

Displays a log of the problems that occur on the network.

(7) Rec event list

Number of events

Displays the total number of events in a list. If there are more than 10 000 events, [>10000] is displayed.

[All list] button

Removes any conditions and all rec events are listed.

[Refresh] button

Updates the display to the most recent status.

[Prev page] button

Displays the previous page of the list.

[Next page] button

Displays the next page of the list.

[Time & date]

Displays the time and date.

[Ch]

Displays the channel of the recorded data.

[Rec]

Displays the recording mode (page 23).

[HDD]

Displays the number of the disk where data is stored.

[Info]

An icon is displayed on the image when audio is available.

(8) [Zoom in] button

Enlarges the display of live and recorded images.

Note:

- The rec event list is displayed when the [Refresh] button is pressed, or when searching (page 24, page 25) or when selecting an area (page 26).
- The [All list] button is disabled during playback. Stop playback and then do the search operation.
- When there are many cameras, the recording start time may vary for each channel.

[Cam. select] button

The following operation panel appears when you click the [Cam. select] button.

(1) [Multiscreen select] box

Displays multiple images from up to 4 cameras at the same time. Switches between the four screens by each clicking of the button following the preset camera combination (refer to the Setup Instructions (PDF file)).

(2) [Sequence] box

Switches the camera images automatically in a preset sequence. The button indicator lights green during sequence (refer to the Setup Instructions (PDF file)).

(3) [El-zoom] box

Displays the camera image at the magnification of the button clicked.

: 1x

: 2x

: 4x

(4) [Cam. select] box

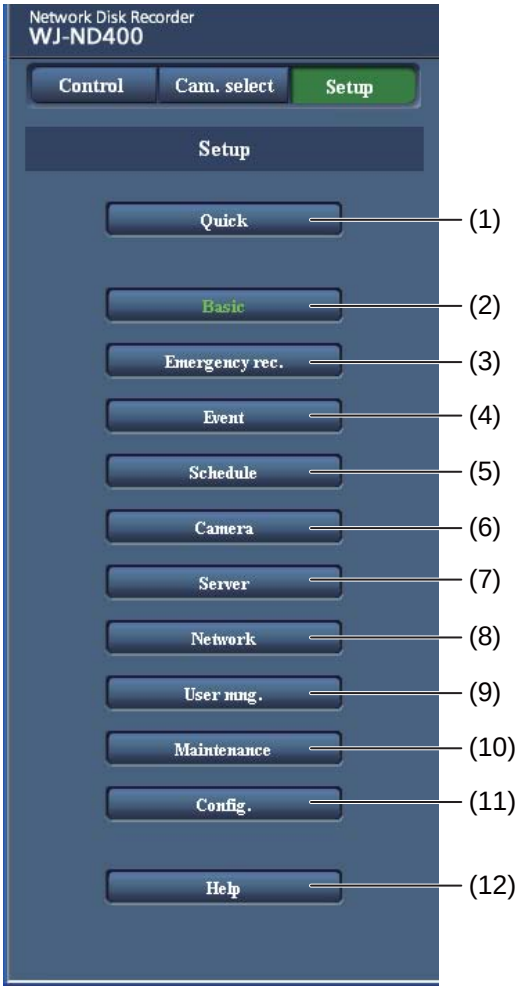
Displays the group titles of the cameras connected to the recorder when clicking [WJ-ND400]. Refer to the Setup Instructions (PDF file) for information about group settings.

Displays the cameras the belong to that group when clicking a group title. Displays the image of camera when clicking a camera title on 1-screen.

[Setup] button

The following operation panel appears when you click the [Setup] button.

Refer to the Setup Instructions (PDF file) for more information.



(1) [Quick] button

Displays a menu with the minimum settings necessary to operate the recorder.

(2) [Basic] button

Displays a menu for system and date/time settings necessary for basic operations of the recorder.

(3) [Emergency rec.] button

Displays a menu for emergency recording settings.

(4) [Event] button

Displays a menu for setting the operations for the occurrence of each type of event (site alarm, terminal alarm, command alarm).

(5) [Schedule] button

Displays a menu for setting recording/event action for specified days and times.

(6) [Camera] button

Displays a menu for setting the network, group, and sequence of cameras.

(7) [Server] button

Displays a menu for setting the server of recorder.

(8) [Network] button

Displays a menu for setting the network of recorder.

(9) [User mng.] button

Displays a menu for setting authentication.

(10) [Maintenance] button

Displays a menu for setting HDDs.

(11) [Config.] button

Displays a menu for disk information, data encryption settings, and formatting disks.

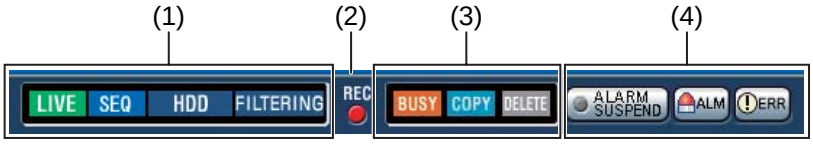
Important:

- When settings are activated, all logged in users log out.

(12) [Help] button

Displays the Help window.

Status display area



(1) Displays the status of live and playback images.

: Live images are being displayed.

: Recorded images are being played back.

: Images are being played back reversely.

: Images are being played back at fast forward.

: Images are being played back reversely at fast forward.

: Playback is paused.

: Recorded images and audio are being downloaded.

: Recorded images and audio have been downloaded.

[Step 1] to [Step 7]

: The playback speed is displayed.

: 1x

: Approx. 4x

: Approx. 8x

: Approx. 16x

: Approx. 32x

: Approx. 48x

: Approx. 96x

: The sequence is being activated.

: Normal recording area or event recording area of the HDD on the recorder is selected.

: HDD copy area is selected.

: SD memory data is currently being obtained.

: RAID is being recovered.

: Rec event list is filtered. For details on filtering of recording event searches, refer to page 24 for information on conditions for filtering.

(2) [REC] indicator

Displays the recording status.

: Recording is being performed.

: Recording is not being performed.

(3) Display the following statuses.

: Camera cannot be operated because a user with a higher priority is using the camera.

: Copying is being performed.

: Image data is being deleted.

(4) Information about the events and errors is displayed.

"Alarm suspend [ALARM SUSPEND]" button

: Clicking this button to temporarily disable alarm detection (page 34).

: This indication will be displayed while an alarm is being suspended.

"Alarm [ALM]" button

: Displays when an event occurs. Clicking this button clears the alarm action (page 34).

"Error [ERR]" button

: An error has occurred. Clicking this button clears the error occurrence. Refer to page 55 for details about errors.

Note:

- Emergency recording does not stop even if you click the "Alarm [ALM]" button while recording. However, recording does stop if the recording time is set to [Continue] for emergency recording.

Playback point operation area

(1) Displays the time and date for the download start point/ending point. (page 42)

[Start] : Set the time and date to start the image to be downloaded.

[End] : Set the time and date to end the image to be downloaded.

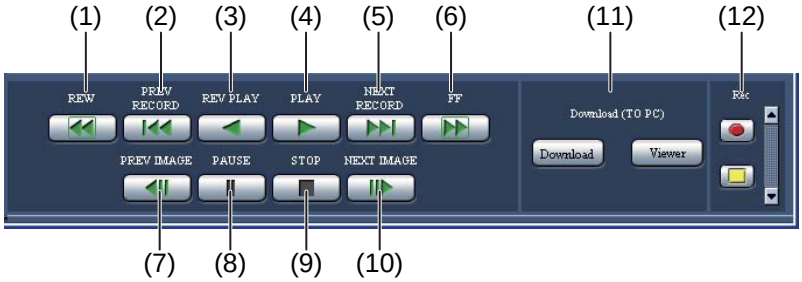
(2) [Go to date] button

Used to playback images from a specified time and date. (page 22).

(3) [Go to last] button

Skips to the latest recorded image on the displayed camera channel and starts playback.

[HDD] tab



(1) [REW] button

Plays recorded images in reversely at high speed.

Each time the button is clicked, the reverse speed changes Step 2 (4x) > Step 3 (8x) > Step 4 (16x) > Step 5 (32x) > Step6 (48x) > Step 7 (96x).

(2) [PREV RECORD] button

Skips backward to play back recorded images.

(3) [REV PLAY] button

Plays recorded images in reverse.

(4) [PLAY] button

Plays recorded images.

(5) [NEXT RECORD] button

Skips forward to play back recorded images.

(6) [FF] button

Plays recorded images at high speed.

Each time the button is clicked, the speed changes Step 2 (4x) > Step 3 (8x) > Step 4 (16x) > Step 5 (32x) > Step6 (48x) > Step 7 (96x).

(7) [PREV IMAGE] button

Clicking during playback or pause plays back one frame at a time reversely, and then pauses.

(8) [PAUSE] button

Clicking during playback pauses playback.

Clicking during pause restarts playback.

(9) [STOP] button

Stops playback and displays live images from the camera.

(10) [NEXT IMAGE] button

Clicking during playback or pause plays back one frame at a time forward and then pauses.

(11) [Download (TO PC)] box

Downloads the image being played to the PC.

[Download] : Images and audio can be downloaded.

[Viewer] : Downloads viewer software for playing back downloaded images.

(12) [Rec] box

Click [Up] button to display the [Recording] and [Recording stop] buttons.

Click [Down] button to hide the [Recording] and [Recording stop] buttons.

[Recording] button : Starts recording manually.

[Recording stop] button : Stops recording manually.

Important:

- When displaying the [Recording] or [Recording stop] buttons, click and hold [Up] button until displayed.

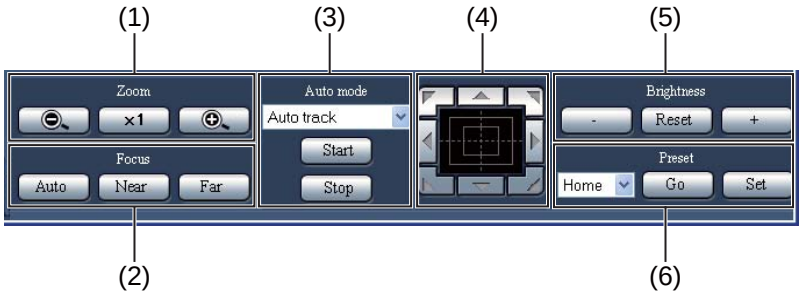
Note:

- The operations are as follows when the image for playback is an MPEG-4 image.

Date/Time Search	:	Playback may start a few seconds before or after the specified time.
Reverse Playback	:	Not all recorded images are displayed. Reverse playback is performed at the refresh rate set for the camera at the time of recording.
Playback During Playback	:	Performing the playback operations again during playback skips ahead a few seconds.
Single Frame Reverse	:	Not all recorded images are displayed. Single frame reverse is performed at the refresh rate set for the camera at the time of recording.
Fast Forward/Fast Reverse	:	Not all recorded images are displayed. Fast forward and fast reverse are performed at the refresh rate set for the camera at the time of recording.
Downloading Images During Playback	:	Image may be saved including a few seconds before the starting time and date and a few seconds after the ending time and date.

[CAM] tab

The camera can be controlled (pan/tilt, zoom, focus, brightness, preset, auto mode) when the live image is from a camera that can pan and tilt. Some camera operations cannot be done depending on the type of camera connected.



(1) [Zoom] box

Click [-] or [+] to adjust the zoom. Click [x1] to return the zoom to normal.

(2) [Focus] box

Click [Near] or [Far] to adjust the image focus.

Click [Auto] to adjust the focus automatically (auto focus).

(3) [Auto mode] box

Select the camera's auto mode function. Click [V] and select an auto mode function (auto track, auto pan, preset sequence, sort, patrol), and then click [Start]. Click [Stop] to turn off the auto mode function.

(4) Control pad/buttons

Click the buttons on the control pad to move the camera to the direction of the button (pan/tilt). Also, click in the control pad to adjust the horizontal/vertical position (pan/tilt) of the image. The pan/tilt movement increases if a clicked point gets farther from the center point of the control pad.

(5) [Brightness] box

Click [-] (Dark) or [+] (Bright) to adjust the lens iris (brightness).

Click [Reset] to reset the brightness.

(6) [Preset] box

[Go] button

The camera moves to the pre-registered preset position. Click [V], select a preset number ([Home], 1 to 256), and then click [Go]. To perform the preset operation, register the camera's preset positions in advance.

[Set] button

Register preset positions that specify the direction of the camera. Move the camera to the direction to register, click [V], select a preset number (1 to 256), and then click [Set] ([Home] cannot be registered.).

Manual recording of images and audio

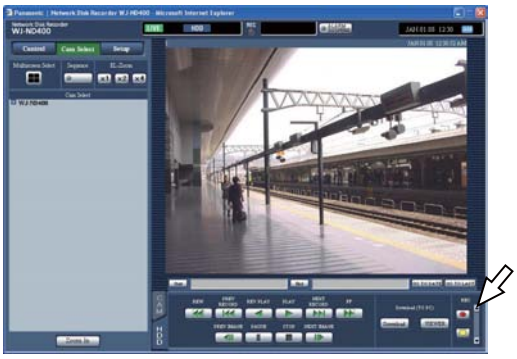
You can set the recorder for manual recording of images and audio.

Check with your system administrator about the manual recording settings.

1 **Click the [HDD] tab.**

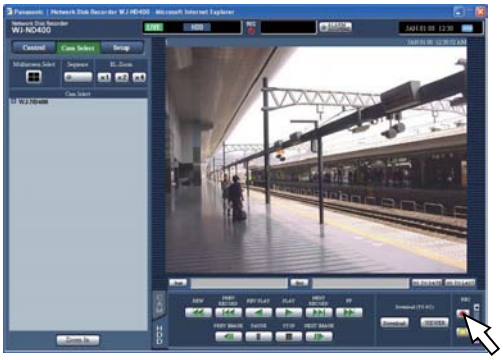
2 **Click the [Up] button in the [Rec] box.**

Click the [Up] button until the [Recording] and [Recording stop] button are displayed.



3 **Click the [Recording] button.**

The [REC] indicator in the status display area lights (red), and recording starts.



4 **Click the [Recording stop] button.**

The [REC] indicator in the status display area turns off, and recording stops.

Note:

- When recording in a recording mode that has a higher priority than Manual, Manual recording goes to standby until the other recording finishes. Refer to the "Recording mode and priority" (table) for information about access priority.
- When recording in modes other than Manual recording (Emergency recording, Event recording, or Schedule recording), recording continues even if you press the [Recording stop] button.
- It is impossible to record images when images are not being received from cameras.

Recording mode and priority

The recorder has 5 recording modes. The access priority of the recording modes is shown below. Images are recorded in the highest priority mode when two or more recordings with different recording modes started simultaneously, only recording with the highest priority will start.

Priority	Recording mode
1	Emergency recording
2	Post-event recording
3	Manual recording
4	Schedule recording
5	Pre-event recording

Audio recording

Audio can be recorded together with images. Audio recording can be set for each of the camera channels. Refer to the Setup Instructions (PDF file) for more information.

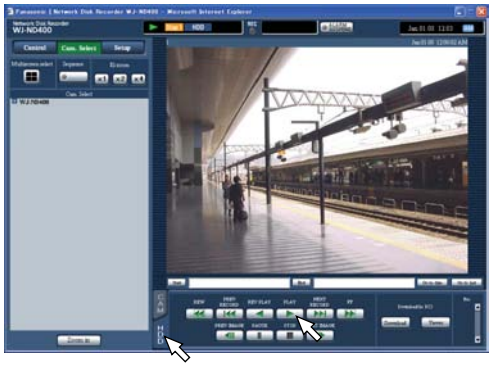
Note:

- Audio recording without images cannot be done. Only image can be recorded.
- Audio recording and SD memory recording cannot be done at the same time. When recording rate of the SD memory recording is set to other than [Off], audio recording for that camera channel is automatically turned [Off].

Playback recorded images

Play back recorded images. There are three ways to play recorded images, specify a time and date, specify search conditions, or select a disk.

1 **Click the [HDD] tab.**



2 **Click the [PLAY] button.**

Plays recorded images. "Playback operation [Step 1]" is displayed in the status display area.

Playback will start from the finish point (time and date) of the last playback.

3 **On the [HDD] tab, click the [STOP] button.**

"Playing [Step 1]" disappears from the status display area and playback is stopped.

- The live image from the camera is displayed in the Image display.

Note:

- The audio with the images is played when single screen is displayed.
- The audio from the upper-left camera channel is played when multiscreen are displayed.
- Play the most recent images the first time images are played after logging in. The default setting is to start playing 30 seconds before the most recent images. The settings for the playback start schedule are shown below.
  5s/10s/30s/1min/5min
  For information about settings, contact your system administrator.
- If multiple browsers and viewers are running at the same time, audio playback may not be correct.
  To play back the audio correctly, run either the browser or the viewer only.
- Playback may slow down or briefly stop if the load on the main unit is too large (many cameras are connected, many images are being played or shown etc.).
- When playing images on multiscreen, images will be played with frame dropping.
- When playing image recorded a different recording rate (one at a higher rate and the other at a lower rate) simultaneously on multiscreen, the difference between the displayed time for each channel will be widen.
- To play SD memory data, search for a recording event and select the images from the rec event list (page 24).
- Image and audio sometimes may not be synchronized.
- Click the [Cam. select] button while playing back images, click a camera title to change the camera channel.
- You can change to the multiscreen display by clicking the [Multiscreen select] button during playback.
- Click the camera title when viewing miltiscreen to view the clicked image on a single screen.

Operations during playback

Function	Button	Operation
Playback/reverse playback		• Plays recorded images. • Plays recorded images in reverse. **Note:** • Clicking the [Play] or [Reverse play] button while recording at a low rate may not play the images being recorded either forward or reverse.
Stop		• Clicking during playback stops playback and displays the live image.
Pausing		• Clicking during playback pauses play back. • Clicking while paused restarts playback.
Frame play/reverse frame play		• Clicking [NEXT IMAGE] during play or pause plays one frame at a time in forward, or pauses. • Clicking [PREV IMAGE] during play or pause plays one frame at a time backward, or pauses. **Note:** • Not all recorded images are displayed if the image being played back is MPEG-4. Single frame reverse occurs at the refresh rate set for the camera.
Skip/reverse skip		• Clicking [NEXT RECORD] starts playing preceding images. • Clicking [PREV RECORD] starts playing previous images. • If the skip destination does not exist, playback continues. In this case, the play time may go back one minute.
Fast playback/fast reverse playback		• Each time the [FF] button is clicked, the speed changes, Step 2 (4x), Step 3 (8x), Step 4 (16x), Step 5 (32x), Step 6 (48x), Step 7 (96x). • Each time the [REW] button is clicked, the reverse speed changes, Step 2 (4x), Step 3 (8x), Step 4 (16x), Step 5 (32x), Step 6 (48x), Step 7 (96x). • Clicking the [PLAY] or [REV PLAY] button during fast forward or reverse changes the speed to normal speed. **Note:** • Not all recorded images can be displayed if the image being played back is MPEG-4. Fast forward/reverse is played back at the refresh cycle set on the camera.
Skip to the latest image	[Go to last]	• Skips to the latest image and starts playback. The default setting is to skip to 30 seconds before the most recent image. The settings for skipping to the latest image are shown below. 5s/10s/30s/1min/5min For information about settings, contact your system administrator. **Note:** • Clicking the [Go to last] button while recording at a low rate, the latest image being recorded may pause or may not be displayed.

Function	Button	Operation
Playback on a multiscreen		• Images being played back are displayed on a split screen (4-screen). • Displays multiple images from up to 4 cameras at the same time. Each time the button is clicked, the 4 screens change. Refer to the Setup Instructions (PDF file) for information about camera group settings. • To return to a single screen display, click the camera title in the [Cam. select] box or a camera title displayed in the image. **Note:** • The various channels may lose synchronization while viewing multiscreen. The times can be synchronized by pausing and then clicking the [PLAY] button again. • Using the single frame function while multiscreen are displayed may cause discrepancies in the image of that channel.
Electronic zoom	 	• Enlarge the size of the image. Clicking the button in the [El-zoom] box while one screen is being displayed enlarges the image. [x1] button: Digitally zooms image by 1x. [x2] button: Digitally zooms image by 2x. [x4] button: Digitally zooms image by 4x. • The point where a zoomed image is clicked becomes the center of the screen.
Zoom in	[Zoom in]	• Enlarges images being played. • Right click on the image being played, and select [Zoom in] from the menu that is displayed. • To return from the zoomed display to the regular display, right click on the image being played, and select [BACK] from the menu that is displayed. **Note:** • When MPEG-4 image is enlarged, it may take the first few seconds for refresh interval of image.

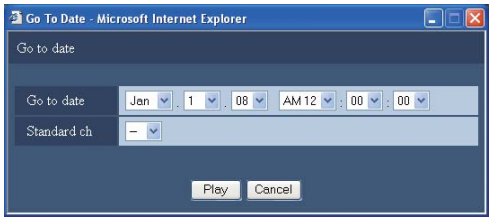
Playback from a designated time and date

Playback images from a designated time and date. You can also playback while recording.

1 **Click the [Cam. select] button.**
The camera list is displayed in the [Cam. select] box.

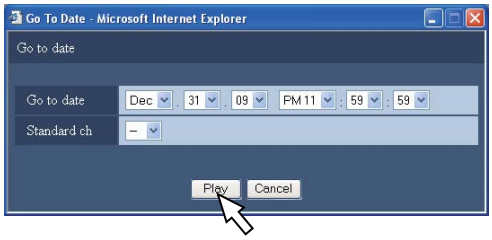
2 **Click the camera channel you want to play back.**

3 **Click the [Go to date] button on Playback Point Operation area.**
This displays the [Go to date] window.



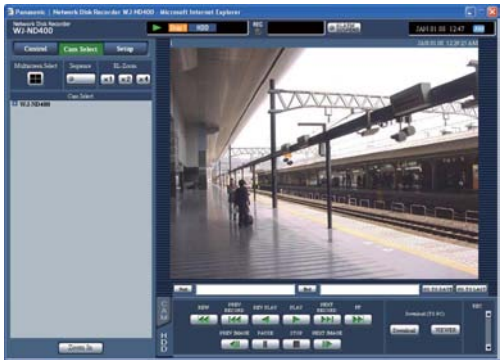
4 **Click the [V] button and select the time and date of the image to play back.**

- Standard channel
  If cameras are setup in multiple countries, you must set which camera channel time and date to use as standard. If the recorder and the camera are set in the same time zone, set to [--].



5 **Click the [PLAY] button.**
"Playing [Step 1]" is displayed in the status display area and images recorded at the designated time and date are played back.

- Refer to page 20 for information about operations during playback.



6 **On the [HDD] tab, click the [STOP] button.**
"Playing [Step 1]" disappears from the status display area and playback is stopped.

- The live image from the camera is displayed in the Image display.

Note:

- When an MPEG-4 image is being played back, playback may start from a point several seconds before or after the designated time and date.
- To playback SD memory data saved on the recorder, display the rec event list and search for the recorded event to playback (page 24).
  Playback is not possible by playing back from the designated time and date.
- Where there is no image for the designated time and date, the image closest to the entered time and date is played back.

Search for and playback images

Search for and playback recorded events on the rec event list (rec event search).

Note:

- When doing a rec event search, the area that can be searched depends on the disk area that is selected.
  Refer to page 26 for details about area selection.

Filter conditions

Filter Conditions	Search
Time and date	Select the starting and ending time and date to search for images recorded during that period.
Event	Search only for images of the selected recording mode. Select from the following recording modes. • Manual [MAN] : Manual recording (page 18) • Schedule [SCH] : Schedule recording (refer to the Setup Instructions (PDF file)) • Emergency [EMR] : Emergency recording (refer to the Setup Instructions (PDF file)) • Site alarm [CAM] : Records according to site alarms (refer to the Setup Instructions (PDF file)) • Terminal alarm [TRM] : Records according to terminal alarms (refer to the Setup Instructions (PDF file)) • Command alarm [COM] : Records according to command alarms (refer to the Setup Instructions (PDF file)) • SD memory recording [SD] : SD memory recording (refer to the Setup Instructions (PDF file))
Camera	Searches selected camera channels.

Rec event list display

Rec event
Total: 21
All list
Refresh
Prev page
Next page
Time & date
Ch
Rec
HDD
Info
Jan.01.08 12:29:24 AM 1 MAN MAIN-1
Jan.01.08 12:29:24 AM 2 MAN MAIN-1
Jan.01.08 12:29:24 AM 3 MAN MAIN-1
Jan.01.08 12:29:24 AM 4 MAN MAIN-1
Jan.01.08 12:29:24 AM 1 MAN MAIN-1
Jan.01.08 12:20:41 AM 1 MAN MAIN-1
Jan.01.08 12:20:41 AM 2 MAN MAIN-1
Jan.01.08 12:20:41 AM 3 MAN MAIN-1
Jan.01.08 12:20:41 AM 4 MAN MAIN-1
Jan.01.08 12:18:16 AM 1 MAN MAIN-1
Jan.01.08 12:18:16 AM 2 MAN MAIN-1
Jan.01.08 12:18:16 AM 3 MAN MAIN-1
Jan.01.08 12:18:16 AM 4 MAN MAIN-1
Jan.01.08 12:03:42 AM 2 MAN MAIN-1
Jan.01.08 12:03:42 AM 3 MAN MAIN-1
Jan.01.08 12:03:42 AM 4 MAN MAIN-1
Zoom in

Number of the list: data : Displays the total number of the listed data. When there are more than 10 000 logs, [>10000] is displayed.

[All list] button : Removes any conditions and lists, all rec events are listed.

[Refresh] button : Updates the display to the most current status.

[Prev page] button : Displays the previous page of the list.

[Next page] button : Displays the next page of the list.

[Time & date] : Start time of recording will be displayed.

[Ch] : Displays the channel of the recording camera.

[Rec] : Displays the recording mode.

[HDD] : Number of the disk where the recorded image is located.

[Info] : Additional information will be displayed, when audio is attached.

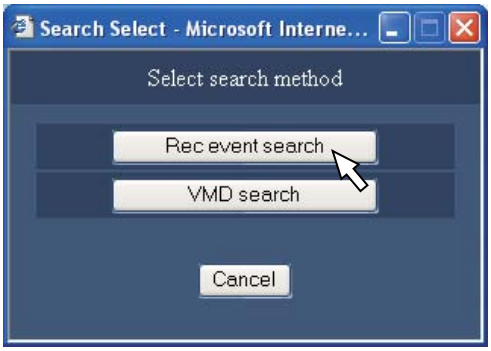
Note:

- The rec event list is displayed when the [Refresh] button is pressed, or when searching (page 24, page 25) or when selecting an area (page 26).
- The [All list] button is disabled during playback. Stop playback and then do the search operation.
- When there are many cameras, the recording start time may vary for each channel.

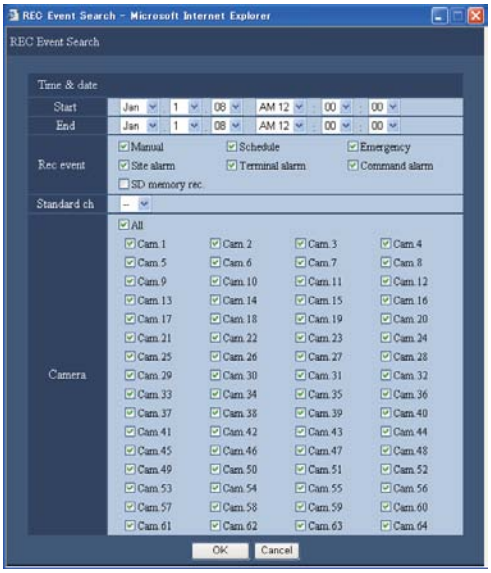
Search for and playback recorded events

1 **Click the [Control] button.**

2 **Click the [Search] button in the [Search] box.**
This will display the [Select search method] window.



3 **Click the [Rec event search] button.**
This displays the [Rec event search] window.

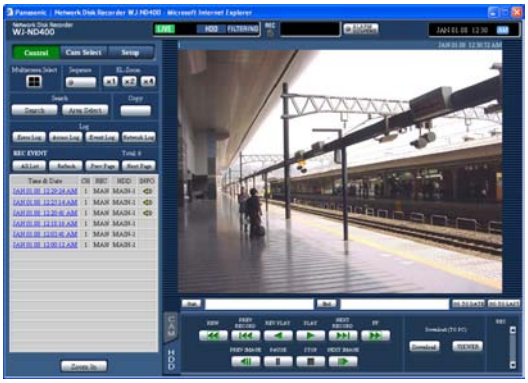


4 **Conditions for filtering.**

- Time & date
  Filter by time and date. Click the [V] button and select the starting and ending time and date.
- Rec event
  Filter by recording event by clicking the recording event to search for.
- Selecting [SD memory rec.] clears all selections other than SD memory data. Selecting something other than [SD memory rec.] clears the SD memory data selection.
- Standard ch
  If cameras are setup in multiple countries, you must set which camera channel time and date to use as standard. If the recorder and the camera are set in the same time zone, set to [--].
- Camera
  Filter by camera channel by selecting the check box of the camera channel to search.

5 **Click the [OK] button.**

- [FILTERING] is displayed on the status display area and the filtered results are displayed.
- This displays the search results on the rec event list window.
- To clear the filter, click the [All list] button. All events are displayed and [FILTERING] disappears.



6 **Click the recorded event time to playback.**
The image at the selected recorded event time is played back.

- Refer to page 20 for information about operations during playback.

7 **On the [HDD] tab, click the [STOP] button.**
Stops playback.

Note:

- Playback of SD memory data
  If there are only a few images recorded during a single event, they may not play back correctly (black screens may appear or refreshing may take a long time). If this happens, you can use next frame/previous frame to display the images.
- Playback of SD memory data on multiscreen
  If the images are not played back correctly on multiscreen, play them on a single screen.

Search for and playback images with motion at a specific time and date (VMD search)

Search for images with motion on a specific time and date from images recorded by cameras that support VMD search and view them in a list. Select and playback images of a specified time and date from the results list.

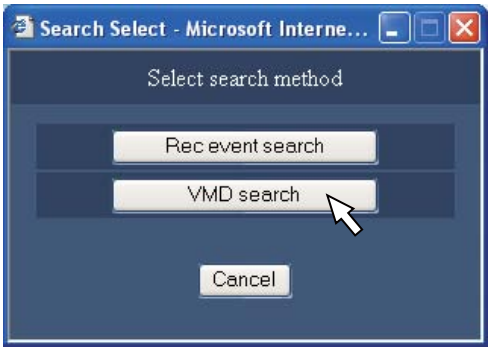
Important:

- To do a VMD search, the cameras that support VMD search need to be set in advance.
  Refer to the "readme.txt" file on the CD-ROM bundled with the recorder for information about the camera models that support VMD search.
  For details refer to the operating instructions for the camera.

1 **Click the [Control] button.**

2 **Select the camera showing the live image you want to search for or playback.**

3 **Click the [Search] button in the [Search] box.**
This will display the [Select search method] window.



4 **Click the [VMD search] button.**
The [VMD search] window is displayed.

Note:

- Live images are shown live and recorded images are shown paused in the image area.

5 **Click the [V] button and set the date range and the basic channel for the VMD search.**

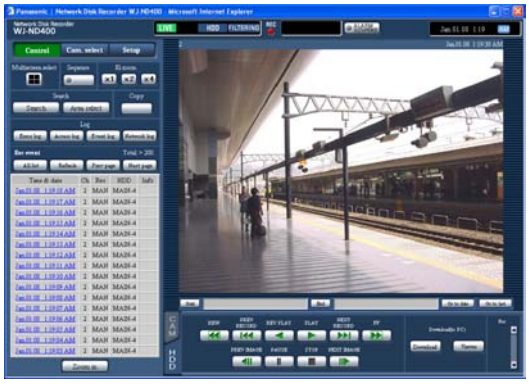
6 **Set the area for the motion search.**
Specify the area by dragging the mouse on the area of the image.

7 **Click the [OK] button.**
Searching starts.

- This displays the search results on the rec event list window.
- Searching may take a while.

Important:

- In the list of VMD search results, the [Info] audio information icon is not displayed even if audio is attached to the file.
- You cannot do VMD searches of SD memory or pre-event recording data.



8 **Click the recorded event time to playback.**
The image at the selected recorded event time is played back.

- Refer to page 20 for information about operations during playback.
- Images are played back in 1-screen only. Click the [Multiscreen select] button after playback has started to display images in multiscreen.

9 **Click the [STOP] button.**
Stops playback.

Note:

- When doing a VMD search in the multiple image screen, the upper-left image is searched.
- If you do a VMD search during sequence operations, the sequence operation stops.

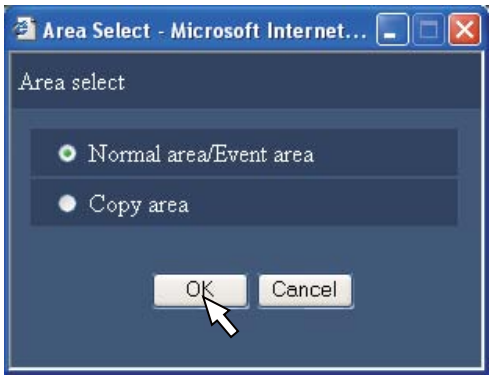
Select an area to play back

Playback camera images saved in the Normal recording area, Event recording area, and Copy area on the HDDs.

1 **Click the [Control] button.**

2 **Click the [Search] button in the [Area select] box.**
This will display the [Area select] window.

- The Area select window is not displayed during playback.



3 **Select the check box for the area to be played back.**

- Normal area/Event area
- Copy area

4 **Click the [OK] button.**
The selected disk is displayed in the status display area.

5 **Click the [HDD] tab.**

6 **Click the [PLAY] button.**
"Playing [Step 1]" is displayed in the status display area and the recorded images on the selected disk are played back.

- Refer to page 20 for information about operations during playback.

7 **Click the [STOP] button.**
Stops playback.

- "Playing [Step 1]" disappears from the status display area and a live image from the camera is displayed in the Image display.
- If you press the [PLAY] button after stopping playback, playback resumes from the time and date when playback was stopped.

Live images

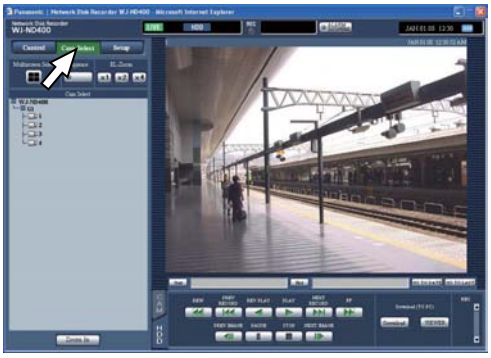
Live images from a camera are displayed on a web browser. The live images from the cameras can be displayed on a web browser in one or multiscreen.

Images can also be automatically displayed in a sequence.

1-screen display

1 **Click the [Cam. select] button.**

The camera list is displayed in the [Cam. select] box.

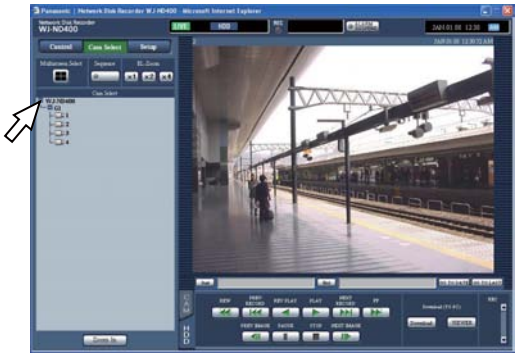


Note:

- About Selecting a Camera
  Click [WJ-ND400] to display the group titles of the cameras set on the recorder. Clicking a group title displays the cameras that belong to that group. Clicking a camera's title displays that camera's image.
- About selecting a camera from the right-click menu
  You can change the image by right clicking on the image and selecting a camera from the menu that appears.

2 **Click [WJ-ND400] and select in order the camera group title and camera title.**

The live image from the selected camera channel is displayed.



Useful functions while images are displayed

Function Name	Button	Operation
Electronic zoom*		• Enlarges live images. Clicking the button in the [El-zoom] box while one screen is being displayed enlarges the image. [x1] button: Digitally zooms image by 1x. [x2] button: Digitally zooms image by 2x. [x4] button: Digitally zooms image by 4x. • The point where a zoomed image is clicked becomes the center of the screen.
Zoom in	[Zoom in]	• Enlarges live images. • To zoom in to the image, right click on the image, and select [ZOOM IN] from the menu that is displayed. • To return from the zoomed display to the regular display, right click on the image being played, and select [BACK] from the menu that is displayed. **Note:** • When MPEG-4 image is enlarged, it may take the first few seconds for refresh interval of image.
Skip to the latest image	[Go to last]	By clicking on a displayed live image, you can skip to and playback the latest image on that camera channel. Refer to page 15 for more information.

* This operation is only available when 1 screen is displayed.

Camera control

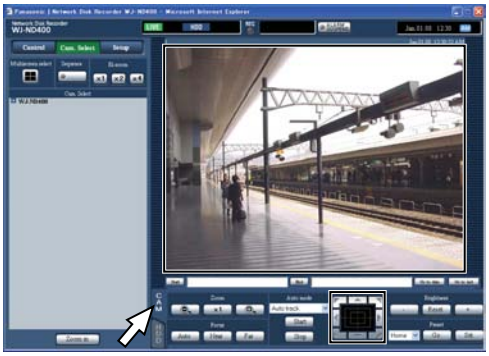
The following camera operations are available when live images from a camera with the pan and tilt function are displayed on a single screen. Operations may not be possible depending on the model of the connected camera.

Pan & tilt	: Adjust the cameras horizontal and vertical position.
Zoom	: Zoom in/out the image.
Focus	: Adjust the focus point of the image.
Brightness	: Adjust the lens iris. (brightness)
Preset operations	: Registers the preset position of camera. / Moves the camera to the registered preset positions.
Auto	: Select the camera's automatic mode function.

Pan & tilt operations

Adjust the camera image's horizontal and vertical position.

1 **Click the [CAM] tab.**



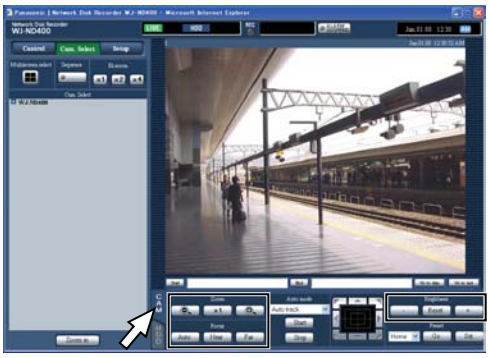
Control button	: Click to adjust the direction of the camera.
Control pad	: Click to adjust the direction of the camera. If a clicked point gets farther from the center point of the control pad.
Image display area	: Click the desired point to be center of the field angle in the displayed image. The camera direction moves to the position you clicked.

Zoom, focus, brightness operations

Adjust the zoom, focus, and brightness of the image.

Zoom	: Adjust the size of the image. The degree of zoom depends on the type of camera. For details refer to the operating instructions for the camera.
Focus	: Adjust the focus point of the image. The focus point can be adjusted automatically (auto focus).
Brightness	: Adjust the lens iris (brightness). The lens iris can also be reset.

1 **Click the [CAM] tab.**



- Zoom

  Click the [-] or [+] button in the [Zoom] box to adjust the zoom.

  Click the [x1] button to reset the zoom.
- Focus

  Click the [Near] or [Far] button in the [Focus] box to adjust the focus.

  Clicking the [Auto] button to do set focus automatically.
- Brightness

  Click the [-] (Dark) or [+] (Bright) button in the [Brightness] box to adjust the lens iris (brightness).

  Click the [Reset] button to return brightness to normal.

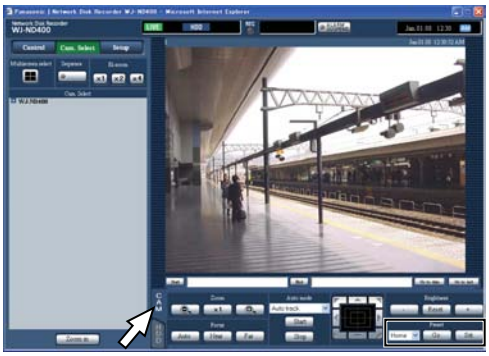
Note:

- You can also adjust the zoom by using the mouse wheel button.

Registration of a camera direction on the preset position.

The current camera direction can be registered on the specified preset position. Registered preset positions can be used with a camera supporting the preset position function.

1 **Click the [CAM] tab.**



2 **Perform the camera's pan and tilt operation to move the camera to the position to be registered.**

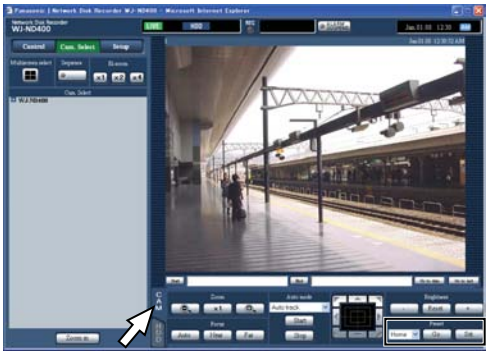
3 **Click the [V] button in the [Preset] box and select the preset number (1 to 256) you want to register. [Home] cannot be registered.**

4 **Click the [Set] button.**
The selected preset number is registered.

Move a camera to the preset position.

Move a camera to the preset position registered in advance. Registering preset positions is required to perform the preset function.

1 **Click the [CAM] tab.**



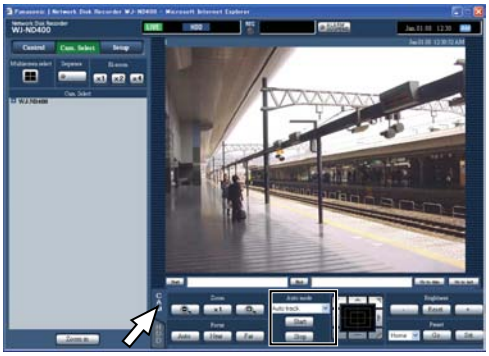
2 **Click the [V] button in the [Preset] box and select the preset number (Home, 1 to 256) to be moved.**

3 **Click the [Go] button.**
The camera moves to the position that was registered as the preset position for that number.

Auto mode function (Auto pan etc.)

Operates the auto functions set for the camera.

1 **Click the [CAM] tab.**



2 **Click the [V] button in the [Auto mode] box and select the auto mode (auto tracking, auto pan, preset sequence, sort, patrol) you want to start.**

3 **Click the [Start] button in the [Auto mode] box to start the auto mode function.**
To turn off the auto mode function, click [Stop].

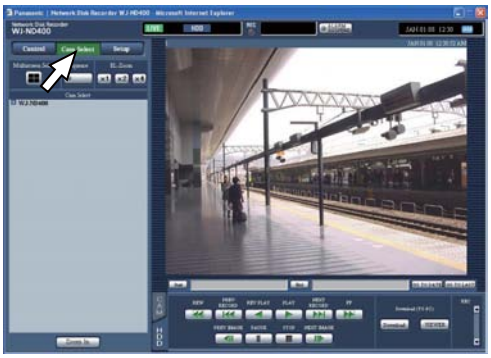
Note:

- For information about camera's auto mode functions, refer to the camera's operating instructions.

4-screen (Multiscreen)

Images from cameras will be displayed on a 4-screen.

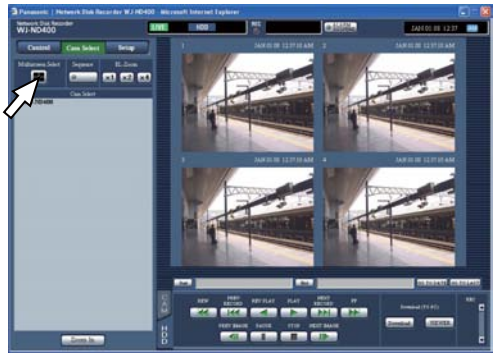
1 **Click the [Cam. select] button.**



2 **Click the [Multiscreen select] button.**

Images from cameras will be displayed on a 4-screen.

- Switch between the preset 4-screen camera combinations with each click of the [Multiscreen select] button (refer to the Setup Instructions (PDF file)).



3 **Click the camera title in the [Cam. select] box or the camera title displayed on the image.**

Returns to 1-screen Display.

Note:

- About starting multiscreen display from the right-click menu
  You can change to multiscreen display by right clicking on the image and selecting "multiscreen [1 - 4]" from the menu that appears.
- About zooming the display from the right-click menu
  To zoom in to the 4-screen, right click on the 4-screen, and select [ZOOM IN] from the menu that is displayed.
- When the [Go to last] button is clicked while displaying live images, playback of the latest recorded images from the selected camera channel will start. (It is available to select a time to be skipped when the [Go to last] button is clicked. Default: 30 seconds)
- The audio of the upper-left camera channel will be heard when multiscreen are displayed.
- When performing a VMD search (page 25) on the multiscreen, the upper-left image is searched.

Display switching (Sequence)

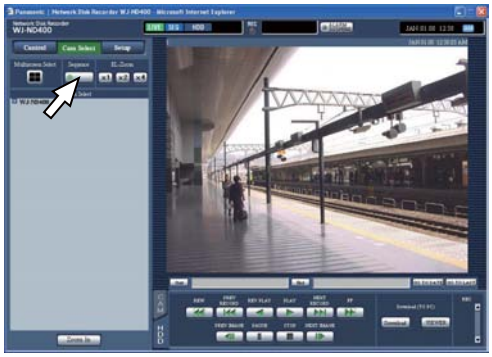
Automatically switches the camera image. Refer to page 28 for information about this handy function for use while images are displayed.

1 **Click the [Cam. select] button.**

2 **Click the [Sequence] button.**

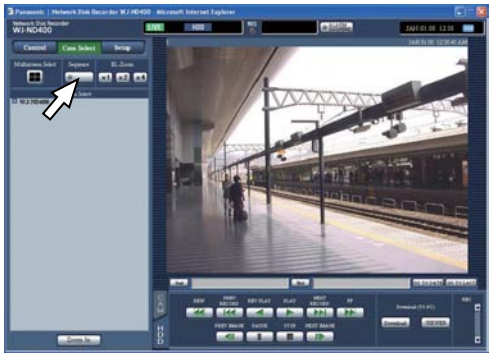
Live images are displayed in sequence according to the preset sequence operation settings.

- The [Sequence] button indicator lights green and [SEQ] is displayed on the status display area.



3 **Click the [Sequence] button.**

The [Sequence] button indicator goes out and the sequence operation is stopped.



Note:

- If you perform VMD search (page 25), 1-screen (page 27), or 4-screen (page 25) during sequence operations, the sequence operation will stop.
- When an image in the sequence cannot be displayed, the image for the next step is displayed. (MPEG-4 image is also unavailable to display. It will be skipped automatically.)
- When the [Go to last] button is clicked while displaying images sequentially, playback of the latest recorded images from the selected camera channel will start. (It is available to select a time to be skipped when the [Go to last] button is clicked. Default: 30 seconds)
- About starting sequence operations from the right-click menu
  You can start sequence operations by right clicking on the image and selecting [SEQ] from the menu that appears. You can also stop sequence operation by selecting [SEQ] during sequence operation.
- About zooming the display from the right-click menu
  If you zoom in to the image by right clicking on the image, and selecting [ZOOM IN] from the menu that is displayed during sequence operation, the sequence operation will stop.
- Audio stops during sequence operations.

Event

The recorder's alarm action starts according to the settings when an event occurs. The event function includes, terminal alarms, command alarms, and site alarms. Refer to the Setup Instructions (PDF file) for information about event functions.

Event functions

About Events

Event action will be performed when some events occur.

Events include, terminal alarms, site alarms, and command alarms.

For example, if a camera sends a site alarm, the recorder receives the alarm and an event occurs.

About event action

Event action is the action done when an event occurs.

Depending on the settings event action include, recording images, recording logs, sending external notification (mail notification, LED, buzzers, transmitting to FTP and others). Here, action that send external notifications are called alarms.

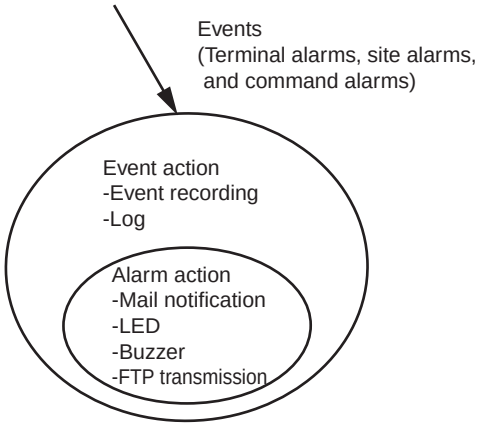


Image of event/alarm action

The recorder starts an event according to the settings when the following events occur.

- Terminal Alarm : Signals from door sensors or other external devices are transmitted through the alarm terminal on the rear panel of the recorder.
- Command Alarm : Receives command alarms from PCs via a network.
- Site Alarm : Receives the Panasonic alarm protocol from network cameras.

Event action include the following.

- Start recording images

  Recording is done according to the recording duration and rate settings on the setup menu (refer to Setup Instructions (PDF file)). The images from a camera before an event occurs can be recorded and linked to the event (pre-event recording).
- Display alarm messages

  A pop-up window appears to indicate an event has occurred.
- Alarm indicator blinks

  Alarm indicator on the front of the recorder blinks.
- Buzzer sounds

  The buzzer sounds according to the settings on the setup menu (refer to the Setup Instructions (PDF file)).
- The camera goes to its preset position.

  The camera moves to a pre-registered preset position. Refer to "Camera control (page 29)" for information about registering preset positions.
- Notify of an event occurrence by sending e-mails

  Alarm mail (notification of the time and date of an event) is sent to registered e-mail addresses when an event occurs. A JPEG image can be attached to this e-mail. Up to 4 addresses can be registered to receive the alarm mail. Refer to the Setup Instructions (PDF file) for information about settings.
- Alarm signal output from the Alarm/Control connector on the rear panel of the recorder (Alarm output)

  When an event occurs, a signal is output from the Alarm/Control connector on the rear panel of the recorder to sound the buzzar. The time the signal is output is set on the setup menu (refer to the Setup Instructions (PDF file)).
- Event log is recorded

  When an event occurs, the type of event and the time it occurred are recorded in an event log.
- Images recorded during events are sent to an FTP server

  When an event occurs, images are recorded from when the event starts for a set period of time and are automatically sent to an FTP server. Refer to the Setup Instructions (PDF file) for information about settings.
- A PC is notified of an alarm according to Panasonic alarm protocol settings

  When an event or error occurs, a PC is automatically notified regarding event or error information according to the [Panasonic alarm protocol] settings. Install the software (option) on the PC designated to receive and display event or error notification.

  Refer to the "readme.txt" file on the CD-ROM for details about the software.

Operations during an event

When an event occurs and is recognized by the recorder, alarm action starts according to the settings. Refer to page 33 for information about alarm action.

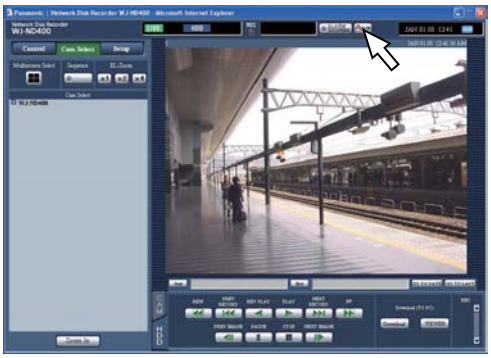
Note:

- When an event occurred and the corresponding camera's compression method is "MPEG-4", event recording may start from a point several seconds after the event occurrence and the recording duration may be shortened for several seconds.

Canceling alarm action

Alarm action starts according to the settings when an event occurs. You can also manually cancel the alarm action.

1 **When an event occurs, the "Alarm [ALM]" button is displayed on the status display area.**



2 **Click the "Alarm [ALM]" button.**
The alarm action is canceled.

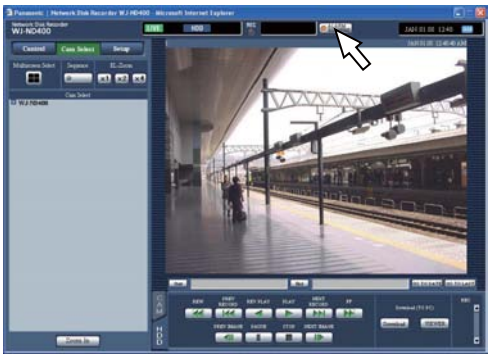
Note:

- Emergency recording does not stop even if you click the "Alarm [ALM]" button while recording. However, recording stops if the recording time is set to [Continue] for emergency recording.

Suspend alarm action

The recorder can be set so that alarms do not occur even if an event occurs. Use this function to do settings or other work when you do not want the alarm to operate. However, recording and event logs are still recorded, preset operations are still performed, and the alarm [ALM] button is displayed.

1 **Display the operation window.**



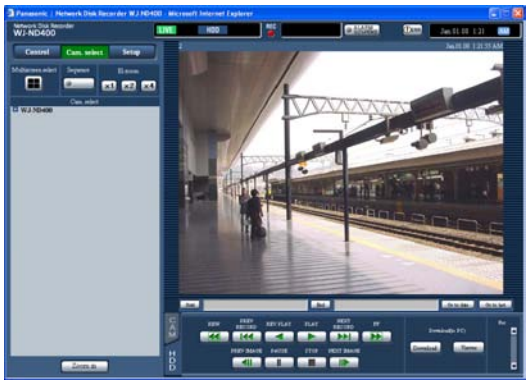
2 **Click the [ALARM SUSPEND] button.**
The [ALARM SUSPEND] indicator on the front of the recorder lights and alarm action is suspended.

3 **Click the [ALARM SUSPEND] button.**
The "Alarm suspend indicator [ALARM SUSPEND]" on the front of the recorder turns off and release the alarm suspension.

Cancel the Error Status

When an error occurred, the unit will be in the error status.
To release the unit from the error status, do the following.

1 **When an error occurred, the [ERR] button will be displayed in the status display area.**



2 **Click the [ERR] button.**
The unit will be released from the error status.

Note:

- Depending on the error, the ERROR indicator on the front of the unit does not go off even if the [ERR] button is clicked.

Preventing illegal operations

You can lock the buttons on the front panel of the recorder to prevent them from being operated.

Lock

1 **Press the arrow buttons (up or down) on the front panel.**
Continue to press it until [Keylock Mode] is displayed.

2 **Press the [SET] button.**
[Keylock Enabled] is displayed and Key Lock is set.

Cancel

1 **Press the arrow buttons (up or down) on the front panel.**
Continue to press it until [Keylock Mode] is displayed.

2 **Press the [SET] button.**
[Locked] is displayed and the password entry screen appears.

3 **Enter your password (default is 12345).**

- Move the cursor using the arrow buttons (left or right) and enter values from 0 to 9 using (up or down).
- You can set the password on the setup menu. Refer to the Setup Instructions (PDF file) for more information.

4 **Press the [SET] button.**
Key lock is canceled.

Checking logs

You can check logs of malfunctions, access, events (time/date, description), and network malfunctions.

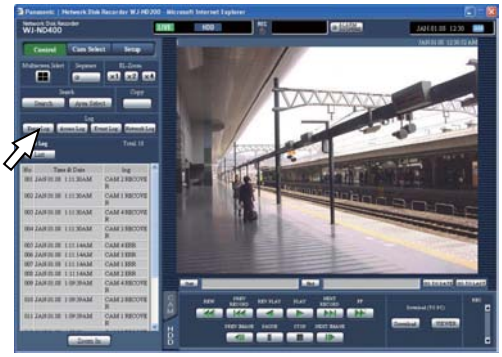
Error log

You can view a listing of the errors that have occurred on the recorder.

1 **Click the [Control] button.**

2 **Click the [Error log] button in the [Log] box.**

Errors that have occurred on the recorder are shown in a list (Error Logs) on the rec event list. Refer to page 52 for more information about Error logs.



3 **Click the [List] button.**

The error log list closes.

Note:

- A maximum of 100 logs are listed on the error log list. When there are over 100 logs, the oldest are overwritten.
- If the current error and last recorded error are the same, only the time and date of the latest log will be updated.
- Live images will not be refreshed correctly while the displayed logs are being refreshed.

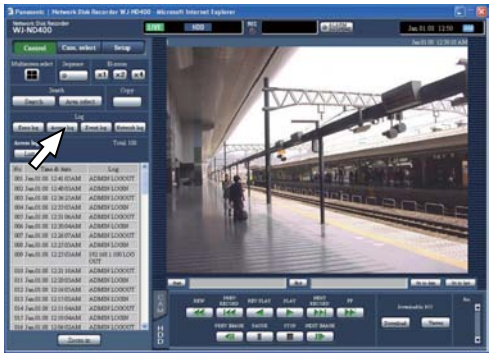
Access log

Displays the log in/log out time and date, the user name and IP address.

1 **Click the [Control] button.**

2 **Click the [Access log] button in the [Log] box.**

Access logs are shown in a list on the rec event list.



About the Access log

LOGIN/LOGOUT	: Users and hosts that logged in or out.
CONFIG LOGIN/ CONFIG LOGOUT	: Logged in or out of configuration settings.
USE BUTTON PUSHED	: Pressed [USE] button for over 2 seconds.

The user name or IP address is shown in **.

3 **Click the [List] button.**

The access log list closes.

Note:

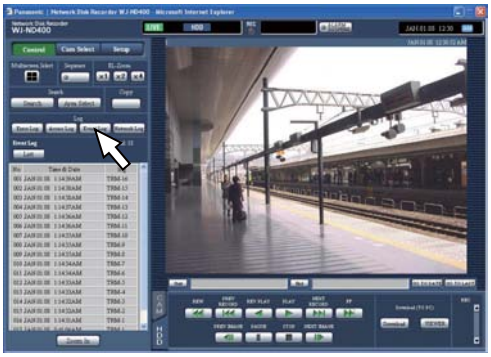
- A maximum of 100 logs are listed on the access log list. When there are over 100 logs, the oldest are overwritten.
- Live images will not be refreshed correctly while the displayed logs are being refreshed.

Event log

You can view the Event log (when events occurred and a description) in a list. For information about events, refer to page 33.

1 **Click the [Control] button.**

2 **Click the [Event log] button in the [Log] box.**
Event logs are shown in a list on the rec event list.



About Event logs

COM	: Command Alarm
EMR	: Emergency recording
TRM	: Terminal Alarm
CAM	: Site Alarm
SCD	: Scene Change Alarm
EXT START	: External recording start
EXT STOP	: External recording stop

3 **Click the [List] button.**
The event log list closes.

Note:

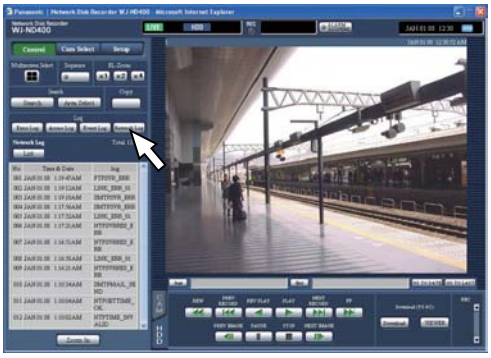
- A maximum of 750 logs are listed on the Event log list. When there are over 750 logs, the oldest are overwritten.
- Live images will not be refreshed correctly while the displayed logs are being refreshed.

Network log

You can view the Network log (when they occurred and a description) in a list.

1 **Click the [Control] button.**

2 **Click the [Network log] button in the [Log] box.**
Network logs are shown in a list on the rec event list. Refer to page 52 for more information about Network Logs.



3 **Click the [List] button.**
The Network log list closes.

Note:

- A maximum of 1000 logs are listed on the Network log list. When there are over 1000 logs, the oldest are overwritten.
- If the current error and last recorded network log are the same, only the time and date of the latest log will be updated.
- Live images will not be refreshed correctly while the displayed logs are being refreshed.

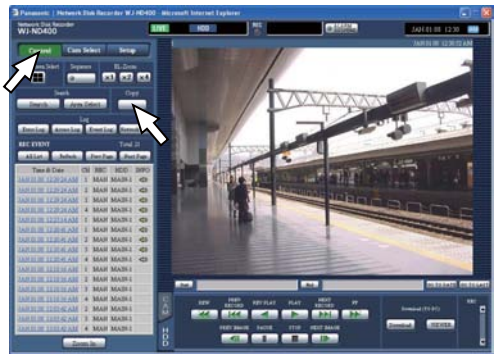
Copying recorded images

Images recorded to a disk can be selected and copied to an area on a HDD.
We recommend backing up important data in case of HDD malfunction or unexpected accident.

Copying

You can copy images recorded in the Normal recording area/Event recording area to the Copy area while live images are being displayed and while recorded images are being played back.

1 **Click the [Control] button.**



2 **Click the [Copy] button.**
This will display the [Data copy] window.

3 **Click the camera channel you want to copy.**
You can select multiple camera channels.

4 **Click the [V] button and select the starting and ending time and date for the copy.**

5 **Set which camera channel time and date to use as standard time zone.**
If cameras are setup in multiple countries, you must set which camera channel time and date to use as standard time zone. If the recorder and the camera are set in the same time zone, set to [--].

6 **Click the [OK] button.**
[COPY] is appeared in the status display area and copying begins.

Important:

- Images are copied before audio.
- All images and audio may not be copied depending on the time set for copying.

Note:

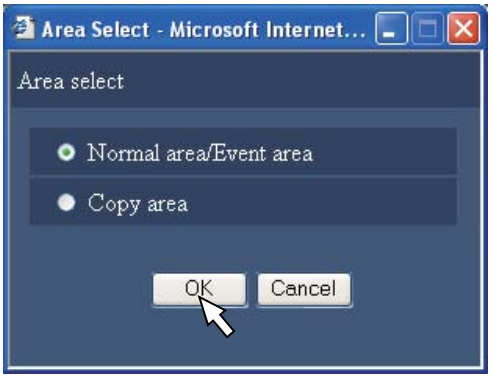
- In the following cases, copying during operation is canceled.
  - If a different user changes the settings during copying.
  - When a user who started manual copying from a PC web browser closes the Web browser (copying stops about 90 seconds after the web browser is closed).
- Copying is not possible in the following cases. A pop-up screen appears when you click the [Copy] button.
  - When a different user is during copying
  - When the Copy Area is selected as the area
- When the user who started copying presses the [Copy] button while during copying, the Copy Cancel screen opens and copying can be canceled.
- When an MPEG-4 image is selected for copying, you can start copying from a specified date and time.
- Selected cameral channels or SD memory data within a specified time rage are copied to the Copy Area.

Playing back copied images

You can playback copied images.

1 **Click the [Control] button.**

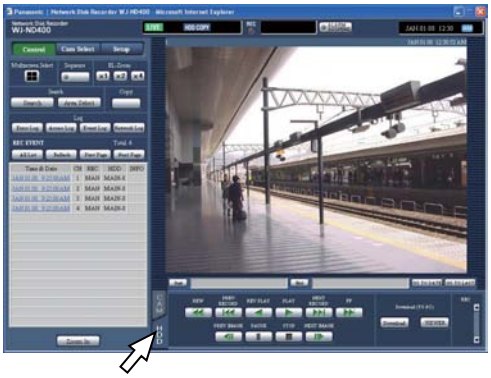
2 **Click the [Area select] button in the [Search] box.**
This will display the [Area select] screen.



3 **Select the [Copy area] check box.**

4 **Click the [OK] button.**
Logs (when copied and a description) of copied images are shown in a list in the rec event list.

5 **Click the [HDD] tab.**



6 **Click the log to playback.**
"Playing [Step 1]" is displayed in the status display area and the recorded images on the selected disk are played back.

7 **Click the [STOP] button.**
Stops playback.

- "Playing [Step 1]" disappears from the status display area and a live image from the camera is displayed in the Image display.
- Playback will start from the finish point (time and date) of the last playback.

Deleting images

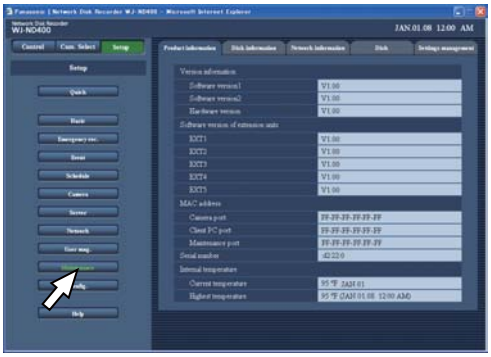
Manual deletion

You can manually delete images and audio recorded on the Normal recording area, Event recording area and Copy area of the recorder's HDD. By setting a time and date, the images recorded the day before the set time and date will be subject to deletion.

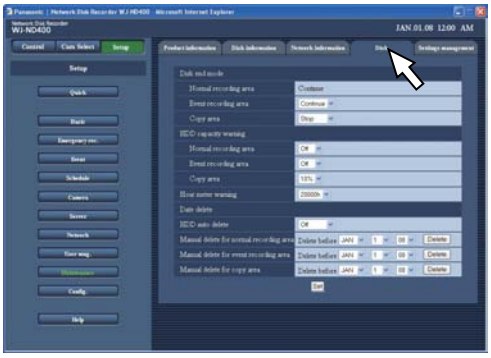
Important:

- Note that deleted images and audio cannot be recovered.
- You can set period of time, after which the images on the HDD are automatically deleted (HDD auto delete). For more information, contact your system administrator.
- When [Stop] is set under [Disk end mode] on the setup menu, disk space does not increase even after deletion.

1 **Click the [Setup] button and then click [Maintenance].**

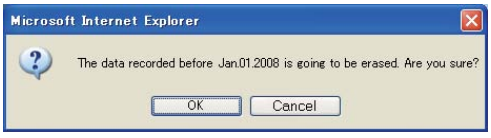


2 **On the sub-menu that appears, click [Disk].**
This will display the "Disk setting" window.



3 **Select the area to delete from [Manual delete for normal recording area], [Manual delete for event recording area], and [Manual delete for copy area] and enter a time and date.**
Images and audio recorded before the set time and date will be deleted.

4 **Click the [Delete] button.**
This will display a confirmation window.

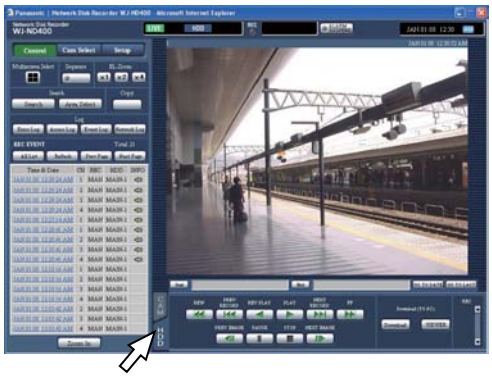


5 **Click the [OK] button.**
The data is deleted.

Downloading images for playback

You can download images to the PC by setting the start and end time and date for download of images being played back. Downloaded images are saved as image data files (file name.n3r) and audio data file (file name.n3a). Refer to page 44 for information on playing back downloaded images.

1 **Click the [HDD] tab.**



2 **Enter the playback time and date for the image being played to be downloaded in "Start".**

You can click the [Start] button at the playback position you want to start downloading the image being played.

3 **Enter the playback date and finishing time for the image being played to be downloaded in "End".**

You can click the [End] button at the playback position you want to end downloading the image being played.

- The maximum time allowed for a single download is 20 minutes.

4 **Click the [Download] button.**

This will display the "Download Settings" window.

- The specified time and date are displayed in the "Start" and "End" boxes.

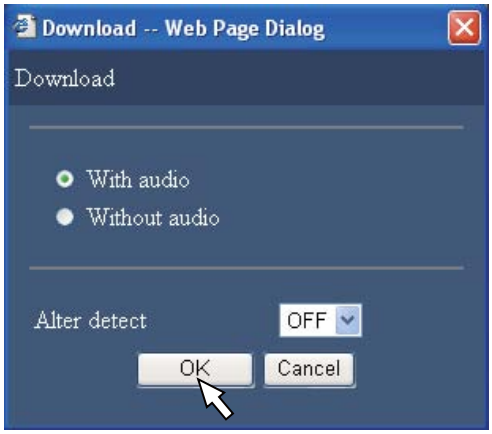
Note:

- When an MPEG-4 image is downloaded, a few seconds before and after the specified start and end time may be downloaded.

5 **Select whether the data for download has audio or whether data for alteration detection is attached and click the [OK] button.**

The File Download window is displayed.

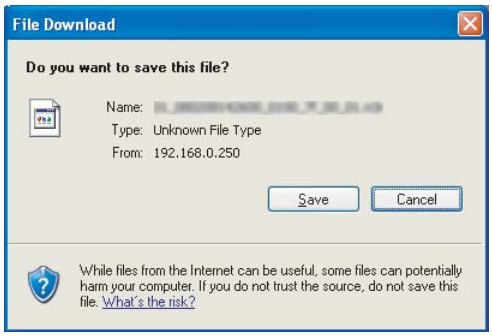
- The download time is longer if audio or alteration detection data is attached.



6 **Click the [Save] button.**

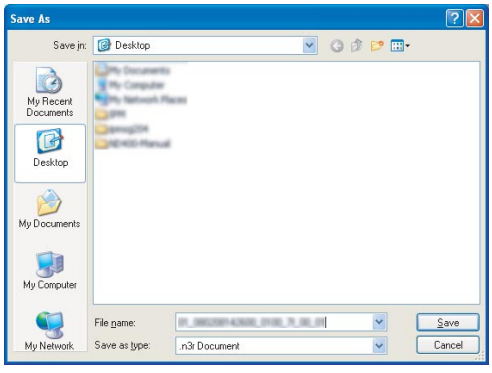
The window for specifying the save destination of the file is displayed.

- If you selected the [With Audio] check box in step 5, a redownload window appears after image data has been downloaded.


File Download
Do you want to save this file?
Name:
Type: Unknown File Type
From: 192.168.0.250
Save
Cancel
While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not save this file. What's the risk?

7 **Create a new folder in the selected destination and click the [Save] button.**

Image data (file name.n3r), and audio data (file name.n3a) are downloaded. Save the image data and audio data in the same folder.



Important:

- During download, space* equal to at least twice the file size is required on the PC HDD.
  *Limited by Microsoft® Internet Explorer.
- If a download is canceled while in progress, the downloaded file will not playback correctly on the PC.

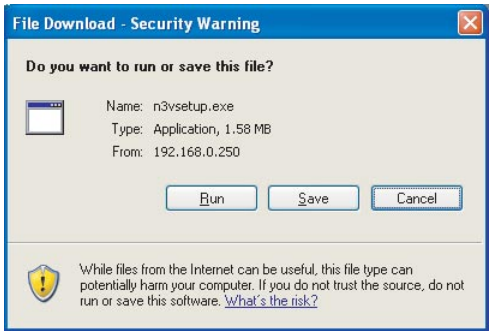
Downloaded image operations

When you download an image for playback, image data (file name.n3r), and audio data (file name.n3a) are downloaded. Using the viewer software available for download from the recorder, you can playback, save, and print downloaded data.

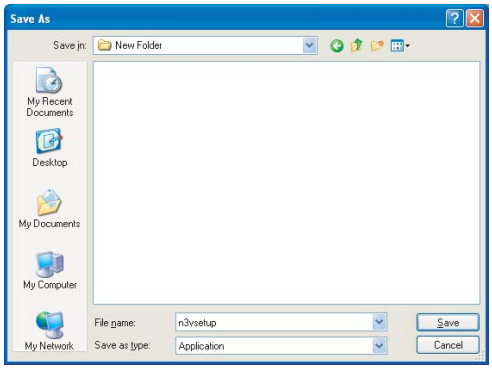
Downloading the viewer software

1 **Click the [HDD] tab.**

2 **Click the [Viewer] button in the [Download (TO PC)] box.**
The [File Download] window is displayed.


File Download - Security Warning
Do you want to run or save this file?
Name: n3vsetup.exe
Type: Application, 1.58 MB
From: 192.168.0.250
Run
Save
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?

3 **Click the [Save] button.**
The window for specifying the save destination of the file is displayed.

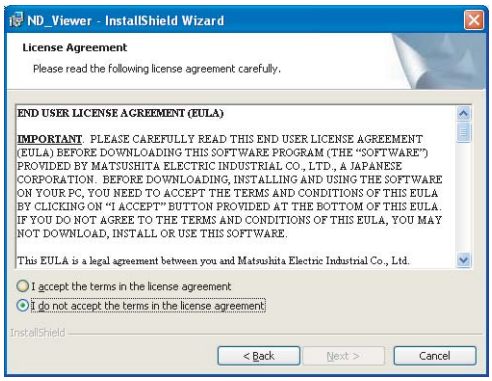


4 **Create a new folder in the selected destination and click the [Save] button.**
The viewer software is downloaded.

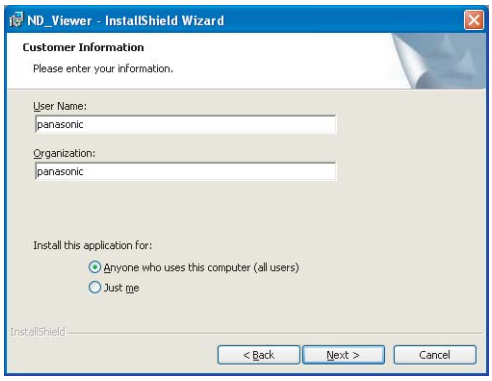
Installing the viewer software

You must uninstall any previous versions of the viewer software before installing the latest version.

1 **Double-click the downloaded n3vsetup.exe file.**
This will display the end user's license agreement.

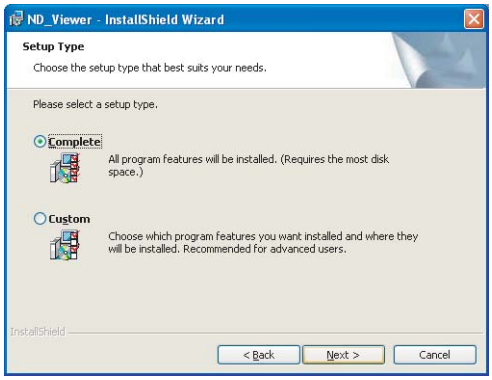

ND_Viewer - InstallShield Wizard
License Agreement
Please read the following license agreement carefully.
END USER LICENSE AGREEMENT (EULA)
IMPORTANT PLEASE CAREFULLY READ THIS END USER LICENSE AGREEMENT (EULA) BEFORE DOWNLOADING THIS SOFTWARE PROGRAM (THE "SOFTWARE") PROVIDED BY MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD., A JAPANESE CORPORATION. BEFORE DOWNLOADING, INSTALLING AND USING THE SOFTWARE ON YOUR PC, YOU NEED TO ACCEPT THE TERMS AND CONDITIONS OF THIS EULA BY CLICKING ON "I ACCEPT" BUTTON PROVIDED AT THE BOTTOM OF THIS EULA. IF YOU DO NOT AGREE TO THE TERMS AND CONDITIONS OF THIS EULA, YOU MAY NOT DOWNLOAD, INSTALL OR USE THIS SOFTWARE.
This EULA is a legal agreement between you and Matsushita Electric Industrial Co., Ltd.
I accept the terms in the license agreement
I do not accept the terms in the license agreement
InstallShield
< Back
Next >
Cancel

2 **Select [I accept the terms in the licence agreement] and click the [Next >] button.**
This displays the entering user information.

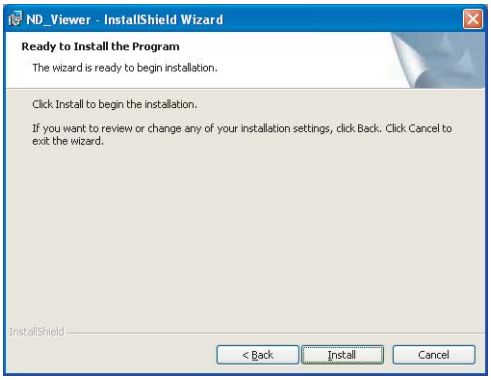


3 **Enter the user information and click the [Next >] button.**
This will display the setup selection.

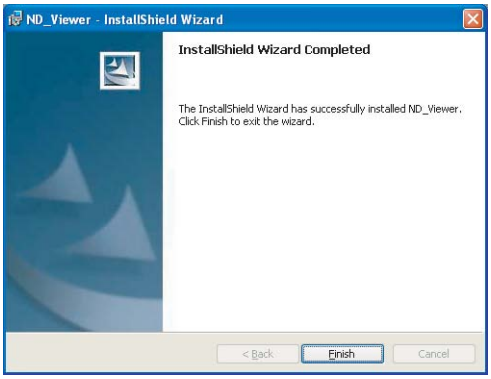
- You may leave some user information fields blank.


ND_Viewer - InstallShield Wizard
Setup Type
Choose the setup type that best suits your needs.
Please select a setup type.
Complete
All program features will be installed. (Requires the most disk space.)
Custom
Choose which program features you want installed and where they will be installed. Recommended for advanced users.
InstallShield
< Back
Next >
Cancel

4 **Select [Anyone who uses this computer (all users)] and then click the [Next >] button.**
The wizard is ready to install.


ND_Viewer - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

5 **Click the [Install] button.**
When the installation is successfully completed, the following window will be displayed.


ND_Viewer - InstallShield Wizard
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed ND_Viewer. Click Finish to exit the wizard.
< Back
Finish
Cancel

6 **Click the [Finish] button.**
Installation of the viewer software is complete.

Uninstalling the viewer software

In Windows XP

1 **Select [Add or Remove Programs] from the Control Panel.**

2 **Select [ND_Viewer] from the list of installed programs, and then click the [Remove] button.**
The uninstall program launches.

3 **Uninstall the program following the instructions on the window.**

In Windows Vista

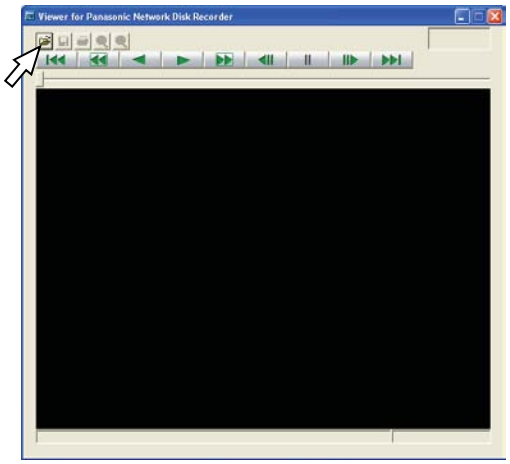
1 **Select [The uninstall program] from the Control Panel.**

2 **Select [ND_Viewer] from the list of installed programs, and right click. Select [Uninstall and Change] in the menu that is displayed.**
The uninstall program launches.

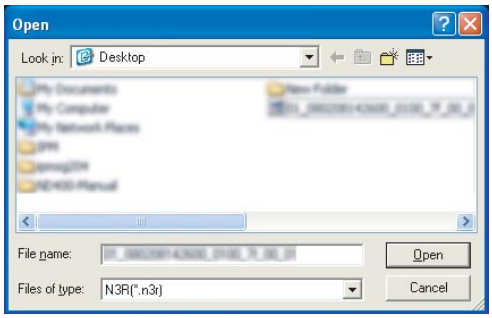
3 **Uninstall the program following the instructions on the window.**

Playing back images

1 **When you launch the viewer software, the following window appears.**



2 **Click the "Open File [OPEN]" button.**
The file open window opens.

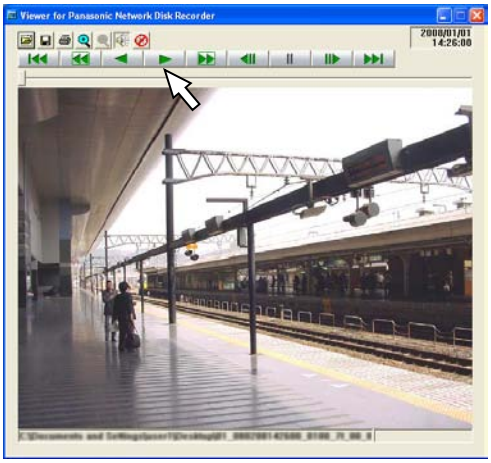


3 **Select the downloaded image data (file name.n3r).**

- You can select multiple files while pressing either the [Ctrl] or [Shift] keys. A maximum of 32 files can be selected.
- When you play audio data, put both image data (file name.n3r) and audio data (file name.n3a) in the same folder.

4 **Click the [Open] button.**

This displays the image.



5 **Click the [PLAY] button.**

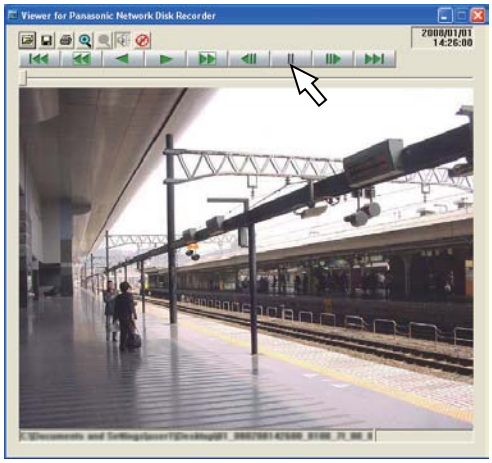
- When playback is finished, a black window is displayed and playback is paused.
- When multiple files are selected, click the [NEXT RECORD] or [PREV RECORD] buttons to switch between images.
- Click the [Zoom] button to enlarge the image twice the size.
- Depending on the specifications of the PC, playback may not be smooth.
- You can turn audio on or off by clicking the [Speaker (audio on)] or the [Speaker (audio off)] button.
- If browser, viewer, or HDD viewer are running at the same time, audio playback may not be correct.

  To play back the audio correctly, run just the browser, the viewer, or the HDD viewer only.
- Image and audio sometimes may not be synchronized.

Saving images

Displayed images are saved to the PC as jpeg files.

1 **Perform operations on playback with the viewer software.**

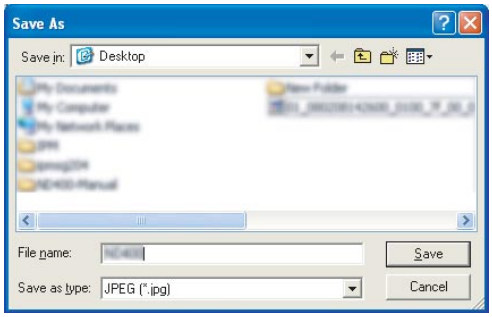


2 **Click the [PAUSE] button.**

3 **Click the [SAVE] button.**

The "Save As" window will be displayed.

4 **Enter a file name and select JPEG (*.jpg) as the file type.**



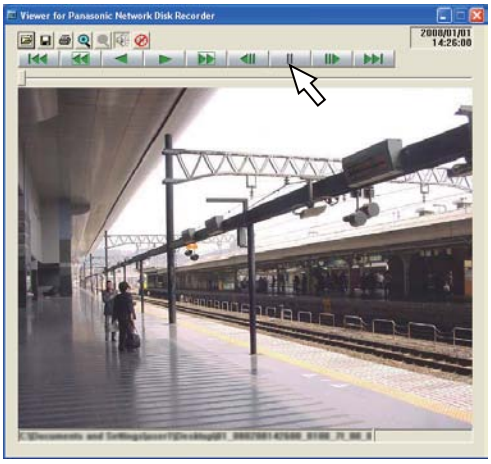
5 **Designate the folder and click the [Save] button.**

The image data is saved.

Printing images

You can pause playback and print images displayed on screen with the viewer software.

1 **Play back an image with the viewer software.**



2 **Click the [PAUSE] button when the image you want to print is displayed.**

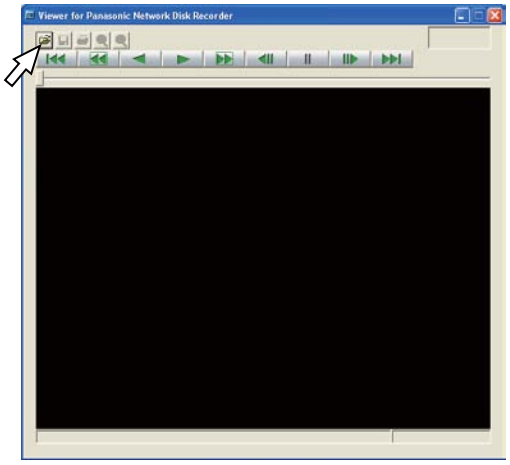
3 **Click the [PRINT] button.**

- When printing n3r file images, the time and date at the paused location is printed.

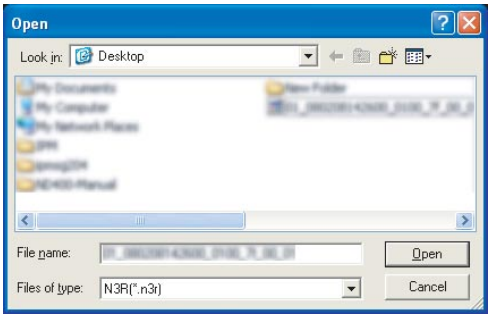
Alteration detection

During downloads, you can perform alteration detection on data set to have alteration detection data attached. Refer to page 42 for information on how to attach alteration detection data.

1 **When you launch the viewer software, the following window appears.**

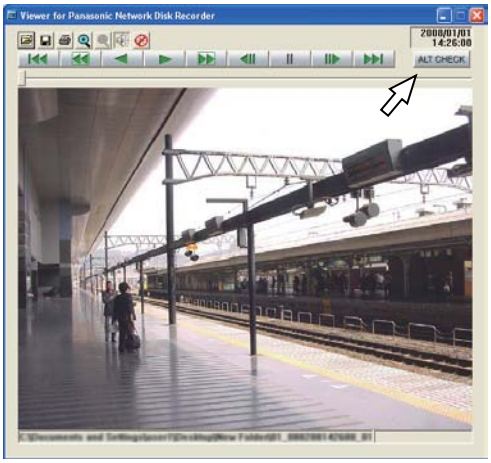


2 **Click the [Open File (OPEN)] button.**
The [Open] window opens.



3 **Select the downloaded image data (file name.n3r).**

4 **Click the [Open] button.**
Playback is paused on the first image of the data.



5 **Click the [ALT CHECK] button.**
Alteration detection starts.

- The [ALT CHECK] button is displayed only when alteration detection can be performed on image data that is open.

[OK (Not Altered)] : Alterations were not detected.
[NG (Altered)] : Alterations were detected.

Transmitting to the FTP server

You can transmit camera images to the FTP server. You can either use image transmission by periodic timer [Image transmission by periodic timer] to transmit images periodically to the FTP server or an alarm [Image transmission by alarm] to send camera images to the FTP server during an event.

Periodically transmit camera images

It is necessary to perform the settings on the setup menu to transmit images from cameras to an FTP server periodically.

Set the directory on the destination server, the transmission interval, and the camera channel to transmit images from under [Server] on the setup menu. Also, configure image transmission by periodic timer settings under [Image transmission by periodic timer] on the setup menu. Refer to the Setup Instructions (PDF file) for information about settings.

Image transmission by periodic timer cannot be used when the image compression format of the camera channel set in [Image transmission by periodic timer] is [MPEG-4].

Transmit camera images when an event occurs

You must configure settings for sending camera images to the FTP server when an event occurs in advance on the setup menu.

Configure the settings for the destination server name, and the transmit time of pre-event and post-event images under [Image transmission by alarm] on the setup menu. Also, configure image transmission by alarm settings under [FTP image transmission by alarm] on the setup menu. Refer to the Setup Instructions (PDF file) for information about settings.

Send mail

Alarm mail (notification of the time and date of an event) is sent to registered e-mail addresses when an event occurs. You must configure the settings on the setup menu in advance to send an alarm mail when an event occurs (refer to the Setup Instructions (PDF file)).

Note:

- A single image is attached to the e-mail.
- Up to 4 addresses can be registered to receive the alarm mail.

Checking system/disk information

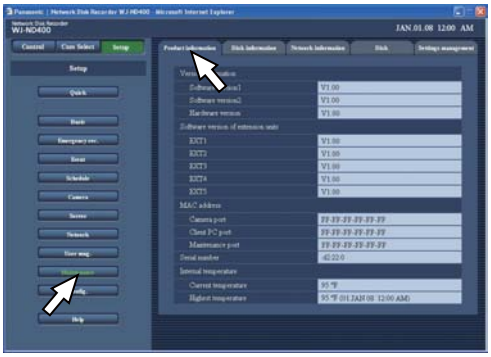
For checking information about the HDDs and the recorder system.

System information

Displays software and hardware versions, MAC address, serial number, internal temperature, and Extension unit software version information.

1 **Click the [Setup] button.**

2 **Click the [Maintenance] button and then click [Product information].**



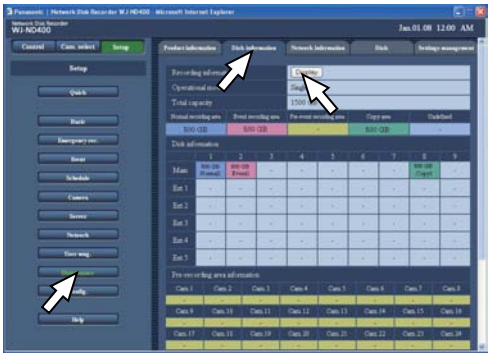
Disk information

You can view the capacities and the remaining space available of the recorder's HDDs and Extension units (Ext.1 to 5). You can also check the date range of images recorded on the selected HDD. Refer to the Setup Instructions (PDF file) for more information on the recorder's HDD. You can also configure settings for operating time (hour meter) warnings for the HDD.

1 **Click the [Setup] button.**

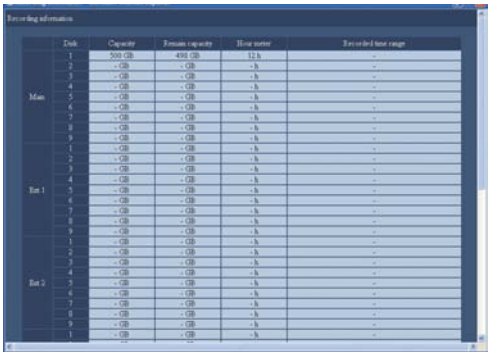
2 **Click the [Maintenance] button and then click [Disk information].**

This will display the "Disk information" window.



3 **Click the [Display] button on the [Disk information] window.**

The capacity, hour meter, and time and date range of images saved on each HDD are displayed.



About mail notification

Alarm mail notification

The main unit's address appears in the alarm mail as shown below.

Contents of the alarm mail

ND400 (192.168.0.250), alarm was occurred.
Alarm date: xx-xxx-xxxx xx:xx:xx GMT xx:xx (Example: 01-JAN-2008 GMT+0:00)
Cause of alarm: Displays an event type and a camera channel or an alarm number (Example: COMMAND ALARM 5CH)
File name of alarm image: The file name of the image attached to an e-mail.
URL:http://192.168.0.250/

Warning mail notification

The following mail will be sent to notify of a trouble occurrence to a registered address when the trouble occurs.

ND400 (192.168.0.250) STATUS REPORT.

DATE: 1-JAN-2008 12:00:00 GMT+0:00

STATUS: The description of the trouble will be displayed. (Ex. MAIN THERMAL ERROR)

Item	Description		
DATE	Time and date when the trouble occurred will be displayed.		
STATUS	The description of the trouble will be displayed.		
	HDD capacity warning[*1]	:	<Anything other than FULL> NORMAL-HDD CAPACITY REMAINS **% EVENT-HDD CAPACITY REMAINS **% COPY-HDD CAPACITY REMAINS **% ** is remaining capacity (%).
		:	<FULL> EVENT-HDD FULL COPY-HDD FULL
	Power outage detection	:	POWER LOSS
	Recover from a power outage	:	POWER RECOVERED
	NW camera error detection	:	CAM** COMMUNICATION ERROR ** is camera channel.
	NW camera error recovery	:	CAM** COMMUNICATION RECOVERED ** is camera channel.
	NW camera error detection (audio)	:	CAM** COMMUNICATION ERROR (AUDIO) ** is camera channel.
	NW camera error recovery (audio)	:	CAM** COMMUNICATION RECOVERED (AUDIO) ** is camera channel.
	HDD smart warning[*2]	:	Recorder: MAIN-y SMART WARNING Extension unit: EXTx-y SMART WARNING x is unit number, y is disk number.
	HDD hour meter warning	:	Recorder: MAIN-y HOUR METER WARNING Extension unit: EXTx-y HOUR METER WARNING x is unit number, y is disk number.
	Remove auto links (per HDD)	:	Recorder: MAIN-y LOGICALLY REMOVED Extension unit: EXTx-y LOGICALLY REMOVED x is unit number, y is disk number.
	Remove auto links (per unit)	:	Recorder: MAIN LOGICALLY REMOVED Extension unit: EXTx LOGICALLY REMOVED x is unit number.

Item	Description		
	RAID5 recovery failure	:	Recorder: MAIN RAID5 RECOVERY FAILURE Extension unit: EXTx RAID5 RECOVERY FAILURE x is unit number.
	RAID6 recovery failure	:	Recorder: MAIN RAID6 RECOVERY FAILURE Extension unit: EXTx RAID6 RECOVERY FAILURE x is unit number.
	Fan trouble	:	Recorder: MAIN FANy ERROR Extension unit: EXTx FANy ERROR x is unit number, y is FAN number.
	Thermal trouble	:	Recorder: MAIN THERMAL ERROR Extension unit: EXTx THERMAL ERROR x is unit number.
	NW link error	:	NETWORK LINK ERROR
	RAID5 1 DOWN	:	Recorder: MAIN RAID5 1 DOWN Extension unit: EXTx RAID5 1 DOWN x is unit number.
	RAID5 2 DOWN	:	Recorder: MAIN RAID5 2 DOWN Extension unit: EXTx RAID5 2 DOWN x is unit number.
	RAID6 1 DOWN	:	Recorder: MAIN RAID6 1 DOWN Extension unit: EXTx RAID6 1 DOWN x is unit number.
	RAID6 2 DOWN	:	Recorder: MAIN RAID6 2 DOWN Extension unit: EXTx RAID6 2 DOWN x is unit number.
	RAID6 3 DOWN	:	Recorder: MAIN RAID6 3 DOWN Extension unit: EXTx RAID6 3 DOWN x is unit number.
	Camera SD memory card error	:	CAM xx SD ERR ** is camera channel.
	Camera SD memory card starting write error	:	CAM xx SD START ERR ** is camera channel.
	Camera SD memory card ending write error	:	CAM xx SD END ERR ** is camera channel.
	Camera SD memory card list request error	:	CAM xx GET LIST ERR ** is camera channel.
	Camera SD memory card data obtainment failure	:	CAM xx GET IMG ERR ** is camera channel.
	Camera SD memory card data deletion failure	:	CAM xx DEL IMG ERR ** is camera channel.
	Video loss detection	:	CAM xx VIDEO LOSS ** is camera channel.
	Video loss recovery	:	CAM xx VIDEO RECOVERED ** is camera channel.
	Single mode format failure	:	Recorder: MAIN-y SINGLE FORMAT ERROR Extension unit: EXTx-y SINGLE FORMAT ERROR x is unit number, y is disk number.
	RAID5 mode format failure	:	Recorder: MAIN RAID5 FORMAT ERROR Extension unit: EXTx RAID5 FORMAT ERROR x is unit number.

Item	Description		
	RAID6 mode format failure	:	Recorder: MAIN RAID6 FORMAT ERROR Extension unit: EXTx RAID6 FORMAT ERROR x is unit number.
	HDD remove error	:	Recorder: MAIN-y SWAP WARNING Extension unit: EXTx-y SWAP WARNING x is unit number, y is disk number.
	Alteration detected	:	:ALTERED **CH ** is camera channel.

*1 HDD capacity warning

A warning mail with the <except FULL> content will be sent when the available disk space becomes less than the set value for "HDD capacity warning" of "Disk" of the "Maintenance" menu. After a warning mail is sent, a warning mail with the <except FULL> content will be sent each time 1% of the available disk space is reduced, and a warning mail with the <FULL> content will be sent when there is no available disk space.

*2 The HDD smart warning mail is not sent in the RAID5 mode or the RAID6 mode.

About the error log

The followings are the descriptions about the contents of the error log and the network error log.

Description of error	Error log	Network log	LCD	Output from connector
Power outage detection	POWER LOSS	–	ERR POWER FAILURE	Power outage recovery completion output
Recover from a power outage	POWER RECOVERED	–	–	–
Alteration Detection	ALTERED **CH	–	–	–
No response from a address of Panasonic alarm protocol	PANASONIC_ALM_RES_ERR	–	–	Network error output
Failed to resolve a address of Panasonic alarm protocol from DNS	PANASONIC_ALM_ADD_ERR	–	–	Network error output
Other errors for a address of Panasonic alarm protocol	PANASONIC_ALM_OTHER_ERR	–	–	Network error output
Parameter initialization error	–	–	Recorder: MAIN ERR INITIAL ERR Extension unit: EXTu ERR INITIAL ERR	–
FAN warning	Recorder: MAIN FANf ERROR Extension unit: EXTu FANf ERROR	–	Recorder: MAIN-f ERR FAN ERROR Extension unit: EXTu-f ERR FAN ERROR	Error output
Thermal error warning	Recorder: MAIN THERMAL ERROR Extension unit: EXTu THERMAL ERROR	–	Recorder: MAIN-t ERR THERMAL ERROR Extension unit: EXTu-t ERR THERMAL ERROR	Error output
Reboot by the system error	SYSTEM REBOOT	–	–	–
HDD remove error[*1]	Recorder: MAIN-d SWAP WARNING Extension unit: EXTu-d SWAP WARNING	–	Recorder: MAIN-d ERR HDD SWAP ERR Extension unit: EXTu-d ERR HDD SWAP ERR	HDD error output
HDD write error	Recorder: MAIN-d WRITE ERR Extension unit: EXTu-d WRITE ERR	–	–	–
HDD read error	Recorder: MAIN-d READ ERROR Extension unit: EXTu-d READ ERROR	–	–	–

Description of error	Error log	Network log	LCD	Output from connector
Single mode format failure	Recorder: MAIN-d SINGLE FORMAT ERROR Extension unit: EXTu-d SINGLE FORMAT ERROR	–	Recorder: MAIN-d ERR HDD FORMAT FAIL Extension unit: EXTu-d ERR HDD FORMAT FAIL	HDD error output
RAID5 format failure	Recorder: MAIN RAID5 FORMAT ERROR Extension unit: EXTu RAID5 FORMAT ERROR	–	Recorder: MAIN ERR HDD FORMAT FAIL Extension unit: EXTu ERR HDD FORMAT FAIL	HDD error output
RAID6 format failure	Recorder: MAIN RAID6 FORMAT ERROR Extension unit: EXTu RAID6 FORMAT ERROR	–	Recorder: MAIN ERR HDD FORMAT FAIL Extension unit: EXTu ERR HDD FORMAT FAIL	HDD error output
RAID5 1DOWN	Recorder: MAIN RAID5 1DOWN Extension unit: EXTu RAID5 1DOWN	–	Recorder: MAIN ERR RAID5 1down Extension unit: EXTu ERR RAID5 1down	HDD error output
RAID5 2DOWN	Recorder: MAIN RAID5 2DOWN Extension unit: EXTu RAID5 2DOWN	–	Recorder: MAIN ERR RAID5 2down Extension unit: EXTu ERR RAID5 2down	HDD error output
RAID6 1DOWN	Recorder: MAIN RAID6 1DOWN Extension unit: EXTu RAID6 1DOWN	–	Recorder: MAIN ERR RAID6 1down Extension unit: EXTu ERR RAID6 1down	HDD error output
RAID6 2DOWN	Recorder: MAIN RAID6 2DOWN Extension unit: EXTu RAID6 2DOWN	–	Recorder: MAIN ERR RAID6 2down Extension unit: EXTu ERR RAID6 2down	HDD error output
RAID6 3DOWN	Recorder: MAIN RAID6 3DOWN Extension unit: EXTu RAID6 3DOWN	–	Recorder: MAIN ERR RAID6 3down Extension unit: EXTu ERR RAID6 3down	HDD error output
HDD S.M.A.R.T warning*2	Recorder: MAIN-d SMART WARNING Extension unit: EXTu-d SMART WARNING	–	Recorder: MAIN-d ERR SMART WARNING Extension unit: EXTu-d ERR SMART WARNING	HDD error output
HDD hour meter warning	Recorder: MAIN-d HOUR METER WARNING Extension unit: EXTu-d HOUR METER WARNING	–	Recorder: MAIN-d ERR HDD HOUR METER WARNING Extension unit: EXTu-d ERR HDD HOUR METER WARNING	HDD error output

Description of error	Error log	Network log	LCD	Output from connector
HDD SKIP warning[*3]	Recorder: MAIN-d HDD SKIP Extension unit: EXTu-d HDD SKIP	–	–	–
Remove HDD auto links (per HDD)	Recorder: MAIN-d LOGICALLY REMOVED Extension unit: EXTu-d LOGICALLY REMOVED	–	Recorder: MAIN-d ERR HDD REMOVE ERROR Extension unit: EXTu-d ERR HDD REMOVE ERROR	HDD error output
Remove HDD auto links (per Unit)	Recorder: MAIN LOGICALLY REMOVED Extension unit: EXTu LOGICALLY REMOVED	–	Recorder: MAIN ERR HDD REMOVE ERROR Extension unit: EXTu ERR HDD REMOVE ERROR	HDD error output
HDD link error	–	–	Recorder: Link MAIN-d FAILURE Extension unit: Link EXTu-d FAILURE	–
Partition error (per HDD)	Recorder: MAIN-d PARTITION ERROR Extension unit: EXTu-d PARTITION ERROR	–	Recorder: MAIN-d ERR PARTITION ERROR Extension unit: EXTu-d ERR PARTITION ERROR	–
Partition error (per Unit)	Recorder: MAIN PARTITION ERROR Extension unit: EXTu PARTITION ERROR	–	Recorder: MAIN ERR PARTITION ERROR Extension unit: EXTu ERR PARTITION ERROR	–
HDD RAID 5 recovery failure	Recorder: MAIN RAID5 RECOVERY FAILURE Extension unit: EXTu RAID5 RECOVERY FAILURE	–	Recorder: MAIN ERR RAID5 R-FAILURE Extension unit: EXTu ERR RAID5 R-FAILURE	HDD error output
HDD RAID 6 recovery failure	Recorder: MAIN RAID6 RECOVERY FAILURE Extension unit: EXTu RAID6 RECOVERY FAILURE	–	Recorder: MAIN ERR RAID6 R-FAILURE Extension unit: EXTu ERR RAID6 R-FAILURE	HDD error output
Normal area available capacity warning	NORMAL-HDD CAPACITY REMAINS **%	–	AREA ERR NORMAL-HDD **%	Available disk space warning output
Event area available capacity warning	EVENT-HDD CAPACITY REMAINS **%	–	AREA ERR EVENT-HDD **%	Available disk space warning output
Event area available capacity warning (FULL)	EVENT-HDD FULL	–	AREA ERR EVENT-HDD FULL	Available disk space warning output
Copy area available capacity warning	COPY-HDD CAPACITY REMAINS **%	–	AREA ERR COPY-HDD **%	Available disk space warning output

Description of error	Error log	Network log	LCD	Output from connector
Copy area available capacity warning (FULL)	COPY-HDD FULL	–	AREA ERR COPY-HDD FULL	Available disk space warning output
Copy error	NO DATA COPY	–	–	–
Network link error	–	NETWORK LINK ERROR	NW ERR NW LINK ERROR	Network error output
Network camera error detection	CAM cc COMMUNICATION ERROR	–	NW ERR CAMERA cc ERROR	Camera error output
Network camera error detection (audio)	CAM cc COMMUNICATION ERROR (AUDIO)	–	NW ERR CAMERA cc ERROR	Camera error output
Network camera error recovery	CAM cc COMMUNICATION RECOVERED	–	–	–
Network camera error recovery (audio)	CAM cc COMMUNICATION RECOVERED (AUDIO)	–	–	–
Video loss detection*4	CAMcc VIDEO LOSS	–	–	Network error output
Video loss recovery*4	CAMcc VIDEO RECOVERED	–	–	–
E-mail transmission complete	–	<SMTP>MAIL_SEND	–	–
E-mail authentication error	–	<SMTP>SMTP_ATTEST_ERR	–	Network error output
Failed to resolve POP3 server address from DNS	–	<SMTP>POP 3_ADD_ERR	–	Network error output
Failed to find POP3 server	–	<SMTP>POP3_SVR_ER R	–	Network error output
POP3 authentication error	–	<SMTP>POP3_ATTEST _ERR	–	Network error output
Failed to resolve SMTP server address from DNS	–	<SMTP>SMTP_ADD_ER R	–	Network error output
Failed to find SMTP server	–	<SMTP>SMTP_SVR_ER R	–	Network error output
MAIL FROM Command error	–	<SMTP>MAIL_FROM_E RR	–	Network error output
RCPT TO Command error	–	<SMTP>RCPT_TO_ERR	–	Network error output
Other errors for SMTP	–	<SMTP>OTHER_ERR	–	Network error output
FTP client transmission complete	–	<FTP>CLIENT_OK	–	–
FTP server transfer complete	–	<FTP>SVR_FWD_OK	–	–
Failed to resolve FTP server address from DNS	–	<FTP>SVR_ADD_ERR	–	Network error output
Failed to find FTP server	–	<FTP>SVR_ERR	–	Network error output
FTP uploading error	–	<FTP>UPLOAD_ERR	–	Network error output
FTP passive mode error	–	<FTP>PASSIVE_ERR	–	Network error output

Description of error	Error log	Network log	LCD	Output from connector
FTP log-in failure	–	<FTP>LOGIN_FAULT	–	Network error output
FTP log-out failure	–	<FTP>LOGOUT_FAULT	–	Network error output
Other error for FTP	–	<FTP>OTHER_ERR	–	Network error output
DDNS IP address update	–	<DDNS>IP_ADD_UPDATE_OK	–	–
No response from the DDNS server	–	<DDNS>SVR_ERR	–	Network error output
Password error for DDNS user name	–	<DDNS>USER_PASS_ERR	–	Network error output
DDNS IP address update error	–	<DDNS>IP_ADD_UPDATE_ERR	–	Network error output
Other error for DDNS	–	<DDNS>OTHER_ERR	–	Network error output
Synchronization with the NTP server complete	–	<NTP>GET_TIME_OK	–	–
Failed to resolve NTP server address from DNS	–	<NTP>SVR_ADD_ERR	–	Network error output
Failed to adjust the time	–	<NTP>SET_TIME_ERR	–	Network error output
No response from the NTP server	–	<NTP>SVR_ERR	–	Network error output
Time from the NTP server is invalid	–	<NTP>TIME_INVALID	–	Network error output
Other errors for NTP	–	<NTP>OTHER_ERR	–	Network error output
SNMP transmission complete	–	<SNMP>SEND_OK	–	–
Password error for SNMP user name	–	<SNMP>USER_PASS_ERR	–	Network error output
SNMP object inquiry failure	–	<SNMP>OBJ_ERR	–	Network error output
Other errors for SNMP	–	<SNMP>OTHER_ERR	–	Network error output
Having IP address complete	–	<DHCP>IP_ADD_OK	–	–
DHCP IP address lost	–	<DHCP>IP_ADD_LOST	–	Network error output
DHCP IP address update failure xx%	–	<DHCP>IP_ADD_UPDATE_ERR	–	Network error output
DHCP IP address registration failure	–	<DHCP>IP_ADD_ENT_ERR	–	Network error output
Other error for DHCP	–	<DHCP>OTHER_ERR	–	Network error output
Password error for HTTP user name	–	<HTTP>USER_PASS_ERR	–	Network error output
HTTP download failure	–	<HTTP>DOWNLOAD_ERR	–	Network error output
HTTP request invalid	–	<HTTP>REQUEST_ERR	–	Network error output

Description of error	Error log	Network log	LCD	Output from connector
Other errors for HTTP	–	<HTTP>OTHER_ERR	–	Network error output
Move to Config	–	–	CONFIG	–
Camera SD memory card error	CAM cc SD ERR	–	NW ERR CAMERA cc SD ERROR	Camera error output
Request to start writing on the camera SD denied	CAM cc SD START ERR	–	NW ERR CAMERA cc SD ERROR	Camera error output
Request to finish writing on the camera SD denied	CAM cc SD END ERR	–	NW ERR CAMERA cc SD ERROR	Camera error output
Request to obtain a data list on the camera SD denied	CAM cc GET LIST ERR	–	NW ERR CAMERA cc SD ERROR	Camera error output
Request to obtain SD memory data on the camera SD denied	CAM cc GET IMG ERR	–	NW ERR CAMERA cc SD ERROR	Camera error output
Request to delete SD memory data on the camera SD denied	CAM cc DEL IMG ERR	–	NW ERR CAMERA cc SD ERROR	Camera error output

*1 HDD remove error is an error that occurs when the hard disk drive is removed without pressing the respective USE button.

*2 In the RAID 5 mode or the RAID6 mode, only "Error log" is displayed, but neither "Indication on the LCD" nor "Output from the connector on the rear panel" is displayed.

*3 "HDD SKIP" is the function that continues recording even when an error occurs, such as an HDD write error, by recording images on the next HDD.

*4 "Video loss" is an error that may occur between the WJ-NT304, WJ-NT314 and the camera connected to the WJ-NT304.To detect video loss occurrences using the WJ-ND400, it is necessary to configure the "Panasonic alarm protocol " setting of the WJ-NT304, WJ-NT314, and the "Site alarm " setting of the WJ-ND400.

Refer to page 58 for information on symbols used on the table above.

About the error operations

Do the following when the error log is displayed. Contact the dealer when an unlisted error occurred.

Error log display	LCD	Description of error	Remedy
MAIN-d WRITE ERR (EXTu-d WRITE ERR)		Failed to read or write data to the HDD. The HDD may have malfunctioned.	If this error occurs frequently, contact your dealer to have the HDD replaced. *1
MAIN-d READ ERR (EXTu-d READ ERR)			
MAIN-d HDD SKIP (EXTu-d HDD SKIP)			
MAIN RAID5 1DOWN (EXTu RAID5 1DOWN)	MAIN ERR RAID5 1DOWN (EXTu ERR RAID5 1DOWN)	The HDD malfunctioned while in RAID mode.	Contact your dealer. After restoring or replacing the malfunctioning HDD, clear the error status.
MAIN RAID5 2DOWN (EXTu RAID5 2DOWN)	MAIN ERR RAID5 2DOWN (EXTu ERR RAID5 2DOWN)		
MAIN RAID6 1DOWN (EXTu RAID6 1DOWN)	MAIN ERR RAID6 1DOWN (EXTu ERR RAID6 1DOWN)		
MAIN RAID6 2DOWN (EXTu RAID6 2DOWN)	MAIN ERR RAID6 2DOWN (EXTu ERR RAID6 2DOWN)		
MAIN RAID6 3DOWN (EXTu RAID6 3DOWN)	MAIN ERR RAID6 3DOWN (EXTu ERR RAID6 3DOWN)		
MAIN-d SMART WARNING (EXTu-d SMART WARNING)	MAIN-d ERR SMART WARNING (EXTu-d ERR SMART WARNING)	The HDD malfunctioned and may not be usable.	Contact your dealer to have the HDD replaced. *1
MAIN-d HOUR METER WARNING (EXTu-d HOUR METER WARNING)	MAIN-d ERR HDD HOUR METER WARNING (EXTu-d ERR HDD HOUR METER WARNING)	The time set on the Hour Meter has expired. The HDD may be near the end of its product life.	Contact your dealer to have the HDD replaced. *1
NORMAL-HDD CAPACITY REMAINS **%	AREA ERR NORMAL HDD **%	When [Disk end mode] is [Stop], HDD is full or remaining capacity is low.	Reset or replace the HDD. *1
EVENT-HDD CAPACITY REMAINS **%	AREA ERR EVENT HDD **%		
EVENT-HDD FULL	AREA ERR EVENT HDD FULL		
COPY-HDD CAPACITY REMAINS **%	AREA ERR COPY HDD **%		
COPY-HDD FULL	AREA ERR COPY HDD FULL		
CAM cc COMMUNICATION ERROR	NW ERR CAMERA cc ERROR	Communication with the network camera is unstable or the network camera is not connected.	Check the communication status with the network camera.
CAM cc COMMUNICATION ERROR (AUDIO)			

Error log display	LCD	Description of error	Remedy
NETWORK LINK ERROR	NW ERR NW LINK ERROR	PORTp ERR, NW link error	Check the network connection.
CAM cc SD ERR	NW ERR CAMERA cc SD ERROR	Abnormality with the camera's SD memory card. An SD memory card was not detected or there is not enough space on the card.	Check the camera settings and the SD memory card.
CAM cc SD START ERR	NW ERR CAMERA cc SD ERROR	Abnormality with the camera's SD memory card. Communication with the network camera is unstable or the network camera is not connected.	Check the camera settings and the SD memory card. Check the status of the connection with the network camera.
CAM cc SD END ERR			
CAM cc GET LIST ERR			
CAM cc GET IMG ERR			
CAM cc DEL IMG ERR			

*1 The HDD should be replaced by the qualified service personnel or system installers. Contact the dealer to replace the HDD.

The (message) is displayed when an error occurs with the extension unit (WJ-HDE400).

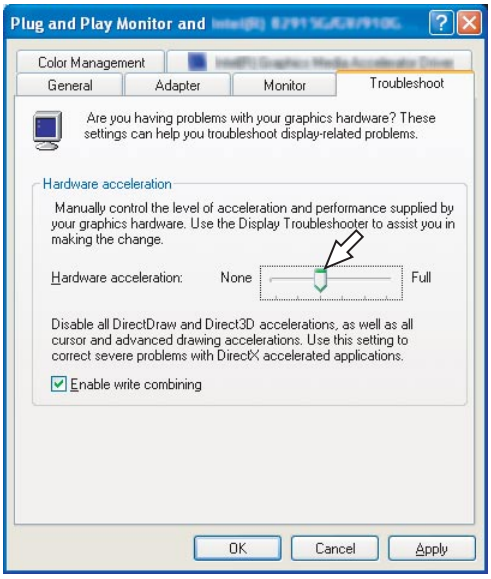
Parameter in the logs above

Parameter	Description	Detail
u	Unit number	1-5: Extension unit number
f	FAN number	1-5: FAN number (FAN1-FAN5)
d	Disk number	1-4: Disk number (HDD1-HDD9)
cc	Camera number	01-64: Camera number

Problems

Before requesting service, check the following items. Contact your dealer if the problem does not appear here, if the problem is not resolved by these remedies, or if you have any questions about settings and installation.

Problem	Check item/remedy	Page
Cannot access from browser	Check if the 10BASE-T, 100BASE-TX, or 1000BASE-TX cable is connected to the network port.	–
	If the network port connection indicator does not light, the LAN is not connected or the network is not operating correctly. Make sure that the connection indicator lights. Contact the system administrator if the indicator does not light.	–
	Refer to the system administrator to make sure the IP address is valid.	Setup Instructions (PDF file)
	Use the following procedure to check if you are accessing a valid IP address. >ping "recorder IP address" When reply is returned from the recorder, the connection is normal. When reply is not returned, check the IP address and the subnet mask settings.	–
	Refer to the system administrator to make sure the IP address is different from another device.	Setup Instructions (PDF file)
	Check if the IP address of the recorder matches the subnet of the network.	Setup Instructions (PDF file)
	When the recorder and the client (PC) are on the same subnet, set the same subnet for the IP address.	Setup Instructions (PDF file)
	To access the recorder on the same subnet, it is recommended to set the recorder's address to "Don't Use Proxy For These Addresses".	Setup Instructions (PDF file)
Buttons on browser window are not displayed correctly	The browser's display may have troubles if you change the font settings from the initial settings. Use the initial font settings.	–
Some information does not appear on browser window	Press [F5] on the keyboard to refresh the window.	–
Image is not being refreshed	The image display may be stopped because of congestion on the network. Press [F5] on the keyboard to acquire the image again.	–
	Image data may not be refreshed if recording at low recording rate (less than 1 ips).	–
Live and recorded images in MPEG-4 format are not displayed in a normal manner	Display and recording may be unavailable for up to one minute directly after the recorder is turned on while cameras are active or a LAN cable is connected to the camera port.	–

Problem	Check item/remedy	Page
SD memory data is not displayed on rec event list	Data on SD memory cannot be played from a normal rec event list or from date search. Filter the rec event list by using [SD memory] of the rec event search and then select rec event list to play images.	–
	The recorded time on the SD memory data is the time set for the camera when the image is recorded on the SD memory card. Check the time set for the camera.	–
Cannot play SD memory data	If the recording consists of only a few frames, they may not be played back normally. When this happens, click "NEXT IMAGE" / "PREV IMAGE" to display the images.	–
Display in one image display area changes to multiple camera images when viewing MPEG-4 images in multiscreen	This may be caused by the combination of the PC's display adapter and driver. When this happens, first, update the driver of the display adapter. • If this does not resolve the problem, use the following procedure to adjust the hardware accelerator function. This explanation uses Windows XP as an example. 1. Close all the browsers and then right-click the desktop and select "Properties" from the menu. 2. Select [Setting] tab from "Display Properties", and then click the [Advanced] button. 3. Click the [Troubleshoot] tab, and disable the DirectDraw acceleration by adjusting the level of [Hardware acceleration]. 	–
Cannot close confirmation window when basic operation window opens	Check the user name and password.	Setup Instructions (PDF file)
Cannot play back downloaded images	Download is stopped when the settings are changed. When this happens, the downloaded image cannot be played back.	–
[Please wait] is always displayed on window	ActiveX control is not installed. Install ActiveX control.	page 64

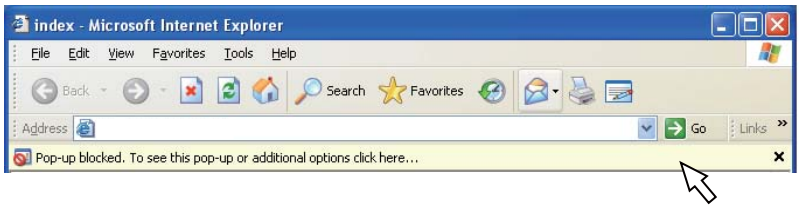
Problem	Check item/remedy	Page
Audio is not recorded Audio is not be played correctly	Is "Mic input" selected for "Audio mode" on the setup menu of the network camera?	Setup Instructions (PDF file)
	Is "32 kbps" selected for "Audio bit rate" on the setup menu of the network camera? Check the settings of the camera.	Setup Instructions (PDF file)
	Audio may not play when playing the most recent images while recording images or audio. If this happens, stop and then start playing the images again.	–
Cannot play audio using the Viewer software	• Are an image data (extension: n3r) and an audio data (extension: n3a) in the same folder? Check the directory designated as the destination folder.	page 44
Live image is not displayed	Check the settings for [NW camera] on the setup menu.	Setup Instructions (PDF file)
	Check the settings for live video on the setup menu.	Setup Instructions (PDF file)
	Check the IP address, subnet mask, and default gateway for the recorder and the network camera.	Setup Instructions (PDF file)
	When the camera's compression format is set to M-JPEG and when saving from the recorder's setup menu or measuring from the program settings repeatedly, a few minutes of live image are not recorded and instead a black screen appears. If this happens, wait about 10 minutes.	–
	The camera image may not be displayed in MPEG-4 format images via the Internet. Refer to your network administrator because it effects the router settings and other network devices.	–
Stops playback. Playback restarts after a short time	Time settings are changed through auto time adjustment. When the time in one record is not continuous, image playback may stop. In this case, playback will restart after a short time.	–
Live and recorded images are not displayed	• Image is not displayed because ActiveX control is not installed correctly if logged in to a user's account with limited access privileges. Log in to a user account as an administrator. • ActiveX control cannot be installed sometimes when you log in the network with domain authentication (Active Directory). Register trusted sites and add the security setting. 1. Start up Internet Explorer and click on "Tools". 2. Click "Internet options". 3. Click the "Security" tab, and select "Trusted sites". 4. Set "Low" for "This zone's security level" (lowering the security level lowers the security level of the PC being used). 5. Click "Site". Do "Add" to URL of the recorder. When you do this, check that the "Must check all servers (https:) of sites in this zone" check box is not selected.	–

Problem	Check item/remedy	Page
• Refresh of live images is unstable • Browser disconnection occurs • Network performance is poor • Downloaded image is not displayed correctly • The image is not displayed, recorded, or played back correctly.	If the cameras use different compression formats, the performance may be poor (image update is unstable).	–
	The settings may exceed the performance limit of network cable or the recorder's network. Lower the value/rate related to network performance, such as the live transmission rate and the recording rate.	Setup Instructions (PDF file)
	The recorder and the HUB network speed may not match (100BASE- TX Full and 100BASE-TX Half, for example). A HUB may cause variations in network transmission speeds. Set the HUB's transmission speed and the recorder's network transmission speed to the same speed.	–
Cannot operate camera	Make sure that the number of the camera set in [NW camera] on the setup menu is correct.	Setup Instructions (PDF file)
	Make sure that the user name and password in [NW camera] on the setup menu have been input.	Setup Instructions (PDF file)

Message display

The following problems may occur depending on the operating environment. If these problems occur, use the appropriate remedy to solve it. The following remedies do not affect other applications or security.

The "Information bar" used in the following problems and remedies indicates the message bar that appears under the address bar in Internet Explorer.


index - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address Go Links
Pop-up blocked. To see this pop-up or additional options click here...

Problem	Remedy
The following message appears in the information bar. "Pop-up blocked. To see this pop-up or additional options, click here..."	Click the information bar and select "Allow popups from this site...". A prompt asking "Allow popups from this site" appears, click the "Yes" button.
The following message appears in the information bar. "This site may require the following ActiveX control: Install 'wvasetup.exe' from 'Matsushita Electric Industrial Co., Ltd.' and click here..."	Click the information bar and select "Install ActiveX Control...". A security warning window appears, click the "Install" button.
The following message appears in the information bar. "Internet Explorer has blocked the file being downloaded to your computer from this site as a security measure. Click here to display options..."	Click the information bar and select "Download File...". If you cannot download the file even after doing the following operations, do the following. Open Internet Explorer's security settings window, select "Download" - "Automatic prompting for file downloads"-"Enable" and then click the "OK" button. A warning window appears, click the "Yes" button.
The following security warning window appears when you try to download a file. "The publisher could not be verified. Are you sure you want to run this software?"	Click the "Run" button.
Unnecessary status bar or scroll bar appears in popup	Open Internet Explorer's security settings window, select "Allow unlimited size and position of script when opening windows" - "Enable" and then click the "OK" button. A warning window appears, click the "Yes" button.

Words used in the manual

This manual uses the following words.

ActiveX Control

A software module developed by Microsoft. It is used to add functions, downloaded from a web server via the Internet or an Intranet, to Internet Explorer. The recorder uses it to display video.

Bit rate

Indicates how many bits of data can be processed or transmitted in a unit of time. Generally, the units are in bps, or bits per second. Used to indicate the compression rate of video and audio data, and how much data a communications line can send and receive in 1 second.

Broadband Router

Router used to access the Internet via high-speed ADSL or fiber optic lines.

Cable Modem

Device used for connecting to the Internet via a CATV line. Called a cable modem because it functions similar to a modem on a phone line. It differs from regular modems that use a serial port in that it is connected to a PC via an Ethernet connection.

Camera operation

Operations of the camera connected to the recorder such as pan and tilt (horizontal and vertical position), zooming, focusing, brightness, preset motions (movement towards a set horizontal and vertical position) and auto functions (automatic camera rotation, etc.).

DDNS

A technology for dynamically translating DNS server information to enable the transfer of only differences in information between DNS servers (refer to "DNS"). This reduces the data transfer amount necessary for updating information on the DNS server and reduces the load on the network.

DHCP

A protocol that enables PCs to automatically get information from a server needed for accessing a network.

DHCP Server

Maintains network-related information (assigns IP address ranges to (default) gateway servers and clients), and distributes that information when clients request it.

DNS

The long lists of numbers or IP addresses that are used in network environments are difficult to remember, which makes them impractical. This is why PCs are given an easy-to-follow name (domain name) which is converted to an IP address before they are communicated with. The DNS provides translation between domain names and IP addresses.

Default Gateway

Network device used as a gateway for networks, such as a local network, to access PCs on an external network. Data is sent using the default gateway if a gateway is not specified in the destination IP address.

Disk Configuration

Configure the HDD after replacing, removing, or adding a HDD. Disk Configuration is the menu for configuring the HDD.

Electronic Zoom

Enlarges live images and playback images during playback. The electronic zoom enlarges the images by the recorder and is separate from the zoom function included as part of the camera operations for enlarged images.

Emergency Recording

Gives priority to recording video and audio when an emergency occurs using the external switch connected to the recorder.

Ethernet

LAN communication developed by Xerox.

Event

Indicates an occurrence that causes the recorder to take an event action. Events include, terminal alarms, command alarms, and site alarms.

Event recording

Function that automatically starts video and audio recording when an event occurs. Event recording includes Pre-event recording that records images before the event and Post-event recording that records images after the event.

External Recording Mode

Use the external switch connected to the recorder to switch to time tables such as the recording settings and event action settings.

FTP

A protocol that is commonly used for transferring files over the Internet.

Firewall

A type of security used when accessing outside networks like the Internet.

Full Duplex

Communications method that allows simultaneous sending and receiving by transmitting in both directions using an independent sending line and receiving line.

Global Address

IP address assigned to each device connected to the Internet that is equivalent to an address on the Internet. IP address is required for Internet communications.

HDD

Abbreviation for hard disk drive, a type of mass storage device. Camera images are recorded onto a hard disk drive.

HTML

HTML is a markup language used for describing the logical structure of a document and its appearance. Links to images, audio, video and other documents can be inserted into the document. A web browser is used to view documents written in HTML.

Half Duplex

Communications method that switches between sending and receiving using a single communications line.

IP Masquerading

A technology for sharing a single global address between two or more PCs. Allows simultaneous connection of multiple machines to 1 global address to dynamically convert NAT and different TCP/UDP port numbers.

IP address

The identification number assigned to PCs connected via IP networks such as the Internet or an Intranet, or to individual communications devices. Do not assign the same address to multiple devices, especially on the Internet.

Internet

PC network that connects networks all over the world. Different types of PCs can communicate over the Internet.

LAN

A communications network for connecting PCs, printers and other network devices in a relatively small area such as in a building or floor of a building or campus in which data is transferred.

M-JPEG

Video format in which the camera sends continuous JPEG images. Compared with sending images from the camera one at a time, this method reduces the load on the network. However, the transfer rate may change depending on the status of the camera. Images may be represented as a JPEG depending on the camera.

MAC address

Fixed physical address assigned to network devices. Devices send and receive data based on this.

Manual recording

Click the [Recording] button and the [Recording stop] button to manually start and stop recording of video and audio.

Multicast

A way to send the same data to multiple users specified on a network.

Multiscreen Display

This recorder can display multiple camera channels simultaneously while displaying live images or playback images.

NAT (Network Address Translation)

A technology for sharing a single global address between two or more PCs.

NTP (Network Time Protocol)

A protocol developed to accurately maintain time among hosts on the Internet.

POP 3

A protocol for receiving e-mail stored on a server on the Internet or an Intranet.

POP 3 Server

A server that supports POP3, currently the most widely used mail sending protocol.

Plug-in Software

Small programs used to add functions to application software.

PoE (Power over Ethernet)

A technique for supplying power and data simultaneously over an Ethernet cable. PoE was standardized in June, 2003 as "IEEE802.3af".

PoE Supplied Hub

A switching hub that provides PoE functionality. A maximum of 48 V 15.4 W of power can be supplied to cameras and other devices.

Port Number

A sub address set below the IP address to connect multiple parties simultaneously for communication (TCP, UDP, etc.) on the Internet.

Primary Server

DNS servers usually have more than 2 system and the primary server is the main system.

Private Address

IP address assigned when connecting primarily to LAN. Private IP addresses can be assigned freely on a network and do not require a formal application. However, because private IP addresses cannot be used to access the Internet, a router or other device it is necessary to assign a global IP address.

Protocol

A set of rules that allows the exchange of data amongst different types PCs with information. The Internet uses the TCP/IP protocol as its base and information is transferred following http and ftp protocols depending on the application.

Proxy Server

PC or software that connects with the Internet as the proxy for a computer on a local network. It allows special connections from the internal network and blocks unauthorized access from external networks.

RAID (RAID5)

An abbreviation for Redundant Arrays of Inexpensive Disks 5 that provides a highly reliable disk array by distributing access over multiple HDDs, increasing both speed and capacity. Even if one HDD has errors, data can be recovered based on error correction data recorded on other HDDs. (RAID5 is used when 3 or more HDDs are connected. However, when 2 or more HDDs simultaneously have errors, data cannot be recovered.)

RAID (RAID6)

An abbreviation for Redundant Arrays of Inexpensive Disks 6 that provides a highly reliable disk array by distributing access over multiple HDDs, increasing both speed and capacity. Even if two HDD has errors, data can be recovered based on error correction data recorded on other HDDs. (RAID6 is used when 4 or more HDDs are connected. However, when 3 or more HDDs simultaneously have errors, data cannot be recovered.)

Recording rate (ips, I-Frame)

Unit that determines the smoothness when recorded images are played back. "ips" indicates the number of recorded frames in 1 second. When the recording rate is higher, the playback is smoother, but available recording time is reduced. I-Frame indicates the refresh rate set on the camera.

Resolution

Indicates the smoothness of the image quality and the size of the images recorded from the camera. Indicates the number of dots used in the image displayed on the screen. A horizontal resolution of 720 dots and a vertical resolution of 480 dots is expressed as 720-480.

Router

Placed in between different networks, a router sends data to the proper destination via network. If data on the network is addressed to an external network, routers send the data to the outside of the network after judging the optimum sending route.

SD memory recording, SD memory data

SD memory recording is a camera function that saves images in the camera's internal SD memory when communication with the camera is disconnected within the time table recording time set on the recorder. SD memory data refers to those images recorded on the card.

SMTP

A protocol for sending e-mail on the Internet or an Intranet. Used when transferring mail between servers or when clients send mail to the server.

SMTP authentication

SMTP mail transfer protocol appended with a user authentication function. It authenticates passwords and user accounts between SMTP servers and clients. Both SMTP servers and clients must support SMTP authentication.

SMTP Server

A server that supports SMTP, currently the most widely used mail transfer protocol.

SNMP

A protocol for monitoring and managing networked communications devices, such as routers, PCs, cameras and Network Disk Recorders via a network.

Schedule Recording

Function that automatically starts video and audio recording on a preset time schedule.

Secondary Server

DNS servers usually have more than 2 systems and the secondary server is the sub system. If there is trouble with the primary server, the secondary server takes over.

Sequence

Function that automatically switches the camera image in a preset order. Sequence is available on the recorder when live images are displayed.

Subnet

A small network used as a unit of administration when a larger network is divided into smaller networks. Large networks in corporations, for example, the network can be broken down into smaller networks called "subnets" to make the network more manageable and lines used more efficiently. In this case, these smaller networks are called subnets.

Subnet mask

Subnet mask consists of 32-bit numeric values. According to the values, devices can determine which part of the address is the network address and which part is the host address.

System Administrator

Person with the responsibility for setting up and monitoring the recorder.

TCP/IP

The standard network protocol for the Internet and Intranets.

URL

An address for locating information resources such as documents and images on the Internet.

Unicast

Way to send data to a single IP address on a network.

VPN

Service used to make public lines as private lines. Many companies are using this as a new medium of communication instead of costly private lines. Depending on service, VPN also provides a secure line using authentication technology and encryption.

Video Motion Detection (VMD)

Function that automatically detects objects moving in video images.

The main unit records the VMD information sent from the camera and has a VMD search function (*) to find images for only the time and date at which motion was detected.

* Refer to the readme.txt for information about cameras that support VMD search.

WAN

Allows physically separated PCs, such as between the head office and a branch office, to connect via a phone line or private line data for exchanging.

Web Browser

Application software necessary for viewing web pages. The software downloads HTML, image, and sound files from the Internet and displays them after analyzing them. Microsoft Internet Explorer is one of the web browsers.

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Information for Users on Collection and Disposal of Old Equipment and used Batteries

These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.
For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.
By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.
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If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

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Note for the battery symbol (bottom two symbol examples):
This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

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